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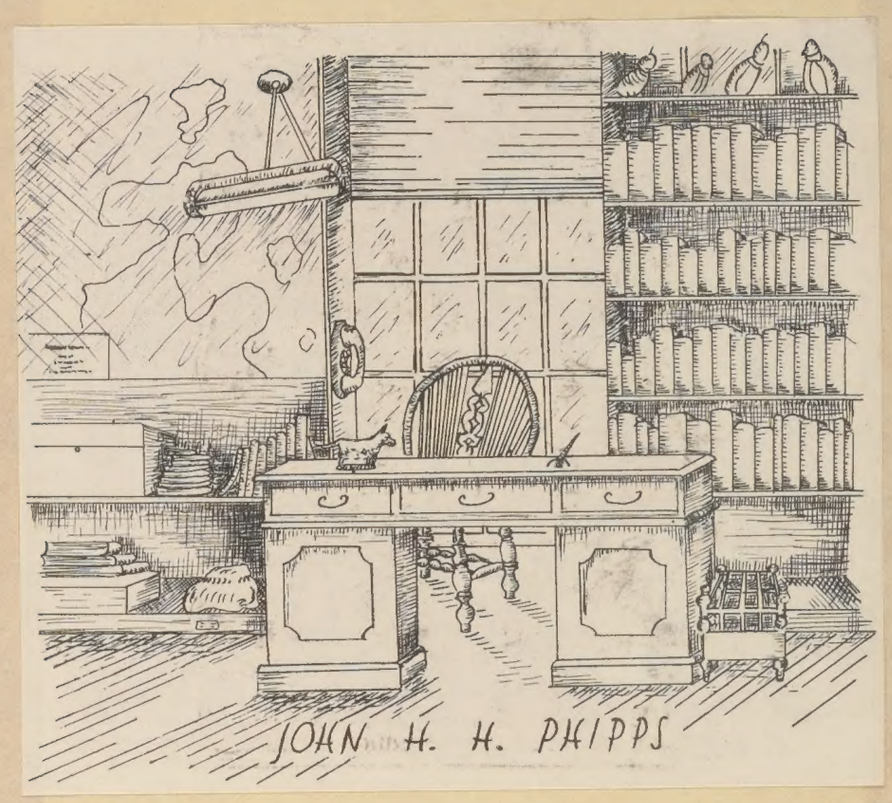
ADJUVANTE
SIR DAVID LIONEL
GOLDSMID-STERN-SALOMONS. BART.
OF BROOMHILL TUNBRIDGE WELLS



JOHN H. H. PHIPPS

A MONOGRAPH

OF

THE TROCHILIDÆ,

OR

FAMILY OF HUMMING-BIRDS.

BY

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LOPHORNIS ORNATUS.

J.Gould del. and H.C.Richter, del. et lith.

Hullmandel & Walton, Imp.

LOPHORNIS ORNATUS.

Tufted Coquette.

Trochilus ornatus, Lath. Ind. Orn., vol. i. p. 318.—Shaw, Mus. Leverianum, p. 130. pl. 7.—Gmel. Edit. of Linn. Syst. Nat., tom. i. p. 497.—Shaw, Gen. Zool., vol. viii. p. 345.

Le Hupe-Col, Buff. Hist. Nat. des Ois., tom. vi. p. 18.—Ib. Sonn. Edit., tom. vii. p. 165.

L'Oiseau mouche, dit Hupecol de Cayenne, Buff. Pl. Enl. 640. fig. 3.

Le Hupecol, Vieill. Ois. dor., tom. i. p. 94. pls. 49, 50, 51.—Ib. Nouv. Dict. d'Hist. Nat., tom. vii. p. 364.—Ib. Ency. Méth. Orn., part ii. p. 565.—Drapiez, Dict. Class. d'Hist. Nat., tom. iv. p. 324.

Tufted-necked Humming Bird, Lath. Gen. Syn., vol. ii. p. 784.—Ib. Gen. Hist., vol. iv. p. 348. pl. lxxvii.—Jard. Nat. Lib. Humming Birds, vol. i. pp. 112 & 114. pls. 15 & 16.

Ornismya ornata, Less. Hist. Nat. des Ois. mou., pp. xl et 139. pl. 41.—Ib. Hist. Nat. des Troch., p. 77. pl. 24.

Mellisuga ornata, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga*, sp. 84.

Lophornis auratus, Bonap. Consp. Gen. Av., p. 83, *Lophornis*, sp. 1.

——— *ornatus*, Ib. Rev. et Mag. de Zool. 1854, p. 257.

——— *ornata*, Less. Ind. Gen. et Syn. des Ois. du Gen. Troch., p. xli.—Ib. Traité d'Orn., p. 285.—Gray, List of Gen. of Birds, 2nd edit., p. 19.—Reichenb. Aufz. der Colibris, p. 12.

The *Lophornis ornatus* does not appear to have been known to Linnæus, for I find no mention of it in the 12th or last Edition of his "Systema Naturæ;" a good description of it, however, will be found in the 13th or Gmelin's Edition; this then appears to be the only member known at that time of a genus now comprising many species, which, for grace and beauty, are second to none in the great family of the Trochilidæ, and all of which are decorated with elegant, lengthened and spangled neck-plumes, or magnificent crests; the former being most conspicuous in some of the species, while in others, such as *L. Regulus* and *L. Reginæ*, the beautiful crest is the more remarkable feature. The *L. ornatus*, which is strictly an inhabitant of the lowland districts of tropical America, enjoys a somewhat extensive range over the eastern part of that continent, being found from the Caraccas on the north to Brazil on the south, and particularly numerous in all the intermediate countries, of Demerara, Surinam, and Cayenne; it is also equally abundant on the island of Trinidad. Prince Maximilian of Wied states, that in Brazil he found it on dry and arid plains clothed with a scanty and bushy vegetation; and such would seem to be the habit of the bird in Trinidad, since it there flies around the low flowering shrubs of the open parts of the country, rather than in the more wooded or forest districts.

The nest is a small round cup-shaped structure, composed of some cottony material bound together with cobwebs, and decorated externally with small pieces of lichens and mosses.

So great a similarity reigns among the females of many species of the genus *Lophornis*, that it is very difficult to distinguish the one from the other, especially as the highly ornamental neck-plumes of the male are entirely absent in the other sex.

The male has the head and crest rich chestnut-red; upper surface and wing-coverts bronzy green; wings dark purplish brown; across the lower part of the back a band of white; rump chestnut-brown; upper tail-coverts bronzy green; tail dark chestnut-red, the two central feathers bronzy green on their apical half, and the lateral ones edged with brownish black; forehead and throat luminous green; on each side of the neck a series of graduated plumes of a light chestnut-red, with a spangle of luminous green at the tip of each; under surface bronzy green; bill fleshy red, dark brown at the tip.

The female has the head and upper surface bronzy green; a narrow band of white across the lower part of the back; upper tail-coverts tipped with bronzy red; tail bronzy green, crossed near the extremity by a broad dusky band and tipped with buff; lores and sides of the throat rufous; centre of the throat buffy white, with a small spot of black at the tip of each feather; an obscure band of white across the breast; under surface bronzy green.

The Plate represents two males and a female of the natural size. The pretty Orchid is copied from a drawing of a Brazilian species kindly sent to me by Mr. Reeves of Rio de Janeiro.

LOPHORNIS GOULDI.

J.Gould and H.C. Richter del et lith

Hullmandel & Walton, Imp

LOPHORNIS GOULDI.

Gould's Coquette.

Ornismya Gouldii, Less. Hist. Nat. des Troch., p. 103. pl. 36.
Trochilus Gouldii, Jard. Nat. Lib. Humming Birds, vol. ii. p. 75. pl. 12.
Lophornis Gouldii, Less., Jard. Gen. et Syn. des Ois. du Genre *Trochilus*, p. xli.
Mellisuga Gouldi, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga*, sp. 87.
Lophornis gouldi, Bonap. Consp. Gen. Av., p. 83, *Lophornis*, sp. 5.—Ib. Rev. et Mag. de Zool 1854, p. 257.
Bellatrix Gouldii, Reichenb. Aufz. der Colibris, p. 12.

If, in the course of my ornithological labours, I have seldom named new birds after individuals, it is not that I think there are not many living naturalists worthy of such an honour, but because I consider the practice an objectionable one; my opinion being that specific appellations should always express some peculiarity pertaining to the species to which they are applied: entertaining then this view of the subject, I must say, that, although fully sensible of the compliment paid me by M. Lesson, in naming the present bird after myself, I should have been better pleased if some more appropriate appellation had been given to such a beautiful species; a species, moreover, which is so rare in the collections of Europe, that few of them contain examples. The first specimen known,—that from which M. Lesson took his description,—forms part of Mr. Leadbeater's collection; another single example, gracing that of Mr. Loddiges, was brought to this country by the celebrated traveller Burchell. Those in my own collection were obtained by the indefatigable collector, Mr. Hauxwell, who shot four or five males and two females near the city of Para; these, with two or three more from the Upper Amazon, deposited in other collections, are nearly if not all that are known. It is evidently a continental species,—that is, it is never found, like its near ally the *L. ornatus*, in Trinidad or any other of the West Indian Islands. North Brazil and the banks of the Amazon, from the embouchure of that mighty river to its upper ramifications in Peru, are, I believe, its true habitat; and its rarity with us is doubtless due to the infrequency with which those remote districts are visited by travellers and collectors, for there seems to be no reason for supposing that in its own particular province it is less numerous than its congeners. In size and structure it very closely assimilates to *L. ornatus*, but the neck-plumes, which in that species are light chestnut-red, are always pure white, and have the terminal spangles broader and rounder; it is also more delicate in form, a feature observable in both sexes. Of its habits and manners nothing is known.

The male has the head and crest rich chestnut-red; upper surface and wing-coverts bronzy green; wings dark purplish brown; across the lower part of the back a band of white; rump chestnut-brown; upper tail-coverts bronzy green; tail dark chestnut-red, the two central feathers bronzy green on their apical half, and the lateral ones broadly edged with brownish black; forehead and throat luminous green; on each side of the neck a series of graduated white plumes, with a large spangle of luminous green at the tip of each; under surface bronzy green; bill fleshy red, becoming dark brown at the tip.

The female has the head and upper surface golden green; a narrow band of white across the lower part of the back; upper tail-coverts tipped with dark bronzy brown; tail bronzy green at the base, crossed by a broad dusky band, and tipped with buff; lores and throat rust-red; under surface bronzy green.

The figures are of the natural size, and represent the males engaged in one of the numerous aërial combats which so frequently occur among the species of the present genus.

LOPHORNIS MAGNIFICUS.

J.Gould and H.C.Richter, del. et lith.

Hullmandel & Walton Imp.

LOPHORNIS MAGNIFICUS.

Frilled Coquette.

Trochilus magnificus, Vieill. 2nde Edit. du Nouv. Dict. d'Hist. Nat., tom. vii. p. 367, et tom. xxiii. p. 428. pl. G 36. fig. 3.—Ib. Ency. Méth. Orn., part ii. p. 559.—Ib. Ois. dor., tom. iii. pl. 8.—Temm. Pl. Col. 229. fig. 2.—Jard. Nat. Lib. Humming Birds, vol. i. pp. 119 & 121. pls. 19 & 20.—Pr. Max. Beitr. zur Nat. von Bras., p. 79.

——— *decorus*, Licht. Verz. der Doubl., p. 14.

Colibri helios, Spix, Av. Sp. Nov. Bras., tom. i. p. 81. tab. lxxxii. fig. 2.

Ornismya magnifica, Less. Man. d'Orn., tom. ii. p. 80.

——— *strumaria*, Less. Hist. Nat. des Ois. mou., pp. xl & 143. pls. 42 & 43.

Lophornis strumaria, Less. Ind. Gen. et Syn. des Ois. du Genre *Trochilus*, p. xli.—Ib. Traité d'Orn., p. 285.

Mellisuga magnifica, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga*, sp. 88.

Lophornis magnificus, Bonap. Consp. Gen. Av., p. 83, *Lophornis*, sp. 2.—Ib. Rev. et Mag. de Zool. 1854, p. 257.

Bellatrix magnifica, Reichenb. Aufz. der Colibris, p. 12.

The discovery of this beautiful little species of *Lophornis* is said to have been made by M. De Lalande, the celebrated French traveller, at the period of whose visit to Brazil and for some time afterwards the bird was very rarely to be met with in our collections; such, however, is no longer the case, for its proper habitat having been ascertained, it is killed and skinned by the negroes, and the skins, bearing a certain market value, are sent to this country and to France in great numbers. Its native country is Brazil; and the localities in which it appears to be most abundant are the provinces of Rio de Janeiro and Minas Geraes. M. De Lalande procured examples in the forests bordering the river Paraiba, to the north of Rio de Janeiro; and MM. Quoy and Gaimard obtained others among the moderately dense vegetation bordering the torrents at the foot of the Organ Mountains. The notes transmitted to me by Mr. Reeves of Rio de Janeiro merely mention that it inhabits that province and Minas Geraes, but unfortunately give no account of its habits.

The nest is a small round cup-shaped structure, composed of a rufous-coloured fungus-like substance, coated externally with cobwebs and fine vegetable fibres, and decorated with small pieces of lichens.

Like the other members of the genus, this species has the sides of the neck adorned with beautiful snowy-white plumelets; but these plumelets differ in form, being shorter and broader, and are moreover crossed by a band of luminous green at the extremity, instead of having a spot of that colour at the tip.

The same difference which exists between the sexes of the other species also occurs with the present, the female being destitute of the conspicuous decorations of the male.

The male has a broad band across the forehead, face and throat luminous green; head and crest dark chestnut-red; upper surface and wing-coverts bronzy green; wings purplish brown; a band of white across the lower part of the back; upper tail-coverts bronzy brown; central tail-feathers bronzy green; lateral ones deep chestnut-red, bordered with brownish black; on each side the neck a series of broad white feathers advancing forward and meeting immediately beneath the green gorget; each of those on the sides of the neck crossed at the tip with a band of luminous green; under surface bronzy green; bill flesh-red at the base, deepening into black at the point.

The female has the head and upper surface bronzy green; a narrow band of white across the lower part of the back; upper tail-coverts tipped with bronzy red; tail deep fawn-colour, crossed towards the extremity by a broad dusky band; throat rufous; under surface bronzy green.

The Plate represents two males and a female with the nest, all of the natural size.

LOPHORNIS REGULUS, *Gould.*

J.Gould and H.C.Richter del et lith.

Hullmandel & Walton Imp.

LOPHORNIS REGULUS, *Gould.*

Great-Crested Coquette.

Trochilus (*Lophornis*) *regulus*, Gould in Proc. of Zool. Soc., part xiv. p. 89.
Mellisuga regulus, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga*, sp. 91.
Lophornis regulus, Bonap. Consp. Gen. Av., p. 84, *Lophornis*, sp. 7.
Ornysmia (*Lophorinus*) *DeLattrei*, Less. Rev. Zool. 1839, p. 19?

For our knowledge of this fine species of *Lophornis* we are indebted to Mr. Bridges of Valparaiso, who found it at Moscosa, on the banks of the river Paracti near Espiritu Santo, and in the Yungas of Cochabamba in Bolivia. It differs from all its congeners yet discovered in its larger size and more lengthened and fuller crest, the feathers of which are very pointed and surmounted by an extremely small dot of dark bronzy green. A smaller bird of this form received from Peru, although nearly allied to the one here represented, is, I believe, specifically different, as its crest is of a more truncate form, and has each feather terminated with a large spatule of dark bronze. I have also received several specimens which appear to me to belong to a third species; these, which were sent from Bogota, are of a still smaller size, and have the crest-feathers more filiform or hair-like, and scarcely a trace of spatule or spot on the tip. Time and future research are necessary to determine with certainty the specific value of the birds in question,—that is, if they be all varieties of one and the same bird, or if they constitute three distinct species: my own opinion inclines to the latter view, and I moreover believe that the great Andean range is not only the native country of three very distinct species of this beautiful form, but that it will be found to be the head-quarters of the genus, and that even more species may yet be expected from the temperate parts of that rich region.

A single example of a species of *Lophornis*, brought to Europe by M. De Lattre, was named after him by M. Lesson; I have not yet, however, been able to find the original specimen from which that naturalist took his description, consequently I have had no opportunity of instituting a comparison of his *L. DeLattrei* with the examples contained in my own collection, and I am therefore unable to say to which of the birds above mentioned it is referable. I have no doubt, however, of its being different from the bird here represented, which, so far as I am aware, is strictly confined to Bolivia.

The male has the crown of the head and crest bright rusty red, the feathers of the crest being much lengthened, carried to a point, and tipped with a minute spot of dark green; throat and breast luminous green, beneath which is a series of white lanceolate feathers; the slightly elongated feathers on the sides of the neck rufous, tipped with shining green; back and abdomen bronzy green; rump bronzy brown, crossed by a band of white; tail chestnut-brown, each feather margined externally with bronzy green; wings purplish brown; bill light brown, darker at the tip.

The female has the face and crown deep buff; throat whitish; upper and under surface, and wing-coverts bronzy; wings purplish brown; rump dark brown crossed by a band of white; tail bronzy green at the base, crossed by a broad dusky band, and the lateral feathers tipped with buff.

The Plate represents two males and a female of the natural size. The plant is the *Gesneria elliptica*.

LOPHORNIS DELATTREI.

J.Gould and H.C.Richter, del. et lith

Walter & Cohn, Imp

LOPHORNIS DELATTREI, *Less.*

DeLattre's Coquette.

Ornismya (*Lophorinus*) *De Lattrei*, Less. Rev. Zool. 1839, p. 19.
Mellisuga De Lattrei, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga*, sp. 85.
Lophornis Delattrii, Reichenb. Aufz. der Col., p. 12; Id. Troch. Enum., p. 9.
——— *delattrei*, Bonap. Rev. et. Mag. de Zool. 1854, p. 257.

It must be admitted by every ornithologist that the members of the genus *Lophornis* are among the most interesting of the *Trochilidæ*,—their diminutive size and the high degree of their ornamentation, the elegance of their spangled neck-plumes and graceful crests, and the richness of their metallic colouring, all combining to call forth our admiration, and to show that here nature has been more lavish than usual. The various species are very generally dispersed over the temperate and hotter parts of South America,—some being found in Brazil and the low countries generally, while, independently of the bird from Central America, five or six at least frequent the great Andean ranges, along which a distinct species is found at every four or five degrees of latitude. Three inhabit New Granada, one Ecuador, and two Bolivia, all of which bear a very general resemblance to each other, but are each distinguished by certain well-defined specific characters. None of the Andean birds have yet been found in Brazil; but the low countries, as before stated, have their own peculiar species, which almost form a distinct section, for their neck-plumes far exceed in length those of the birds inhabiting the Andes; on the other hand, these latter have their crests more largely developed than their neck-plumes, and some of them have very ample crests, as *L. Regulus* and *L. lophotes*. The present bird (*L. Delattrei*) differs from the two last-mentioned species more in this respect than in any other, its crest being composed of narrow, hair-like, and thinly disposed feathers.

Of the history and habits of the *L. Delattrei*, which has been named after the celebrated traveller, nothing is known. The specimens in my collection were obtained at Bogota; but I have seen others from Panama, which I believe to be the limit of its range in a northerly direction.

The male has the head and crest rufous, with a minute spangle of green at the tip of some of the crest-feathers; all the upper surface bronzy brown, becoming darker or purplish on the lower part of the back, where it is crossed by a band of white; wings dark purplish brown; throat metallic green, some of the rufous bases of the feathers showing at the sides of the neck; on the breast a tuft of white feathers; under surface dark golden green; under tail-coverts and tail rufous, glossed with bronzy green on the margins of the latter; bill fleshy red with a dark tip; feet fleshy brown.

The female has the forehead rufous; the remainder of the head dark brown; the body above and beneath dark brown glossed with gold; the wings purplish brown; and the tail light rufous, crossed near the tip with a broad zone of blackish brown, beyond which the tips of the lateral feathers are pale rufous; the basal portion of the two centre feathers glossed with bronzy green.

The figures are of the size of life. The plant is the *Gesneria Seemanni*.

LOPHORNIS REGINÆ, *Gould*

J.Gould and H.C.Richter, del. et lith *Hullmandel & Walton, Imp*

LOPHORNIS REGINÆ, *Gould.*

Spangled Coquette.

Lophornis Reginæ, Gould in Proc. of Zool. Soc., part xv. p. 95.
Mellisuga reginæ, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga*, sp. 92.
Lophornis reginae, Bonap. Consp. Gen. Av., p. 84, *Lophornis*, sp. 8.
——— *reginæ*, Ib. Rev. et Mag. de Zool. 1854, p. 257.
Bellatrix Reginae, Reichenb. Aufz. der Colibris, p. 12.

As I had frequently been informed of the existence of a species of *Lophornis* with a crest, which, when outspread, resembled the tail of a Peacock, it was with no ordinary sensations of pleasure I first beheld the lovely little bird here depicted; specimens of which arrived in Europe for the first time in the year 1847, through the instrumentality of M. Linden of Brussels, who received it direct from his brother, at that time travelling in the province of Antioquia in Columbia. Since that period several other examples have been received from the same source, and from the neighbouring countries; the native locality of this beautiful species is therefore placed beyond doubt.

The *Lophornis Reginæ* differs from every other known member of the genus in its large, round, and well-defined crest, each feather of which is surmounted by a ball-like, dark bronzy-green tip, which must render the bird a most conspicuous and pleasing object when the feathers are fully displayed.

The sexes exhibit the usual difference, the female being entirely destitute of the fine crest and rich colouring of the male.

I regret to add that no information has reached us respecting the habits and manners.

The male has the crown of the head and crest bright rusty red, each feather with a beautiful dark bronzy-green spot at the tip; lores, throat and sides of the neck luminous metallic green, beneath which is a patch of white lanceolate feathers; back of the neck and upper part of the back shining green; lower part of the back, rump, and upper tail-coverts bronzy brown; rump crossed by a narrow band of white; tail chestnut-brown, the tips and margins of the external feathers rich bronzy green; wings purplish brown; abdomen light metallic green; bill fleshy at the base, dark brown at the tip; feet brown.

The female has the forehead and crown deep buff; upper surface and wing-coverts bronzy green; lower part of the back dark or blackish brown, crossed by a band of white; wings purplish brown; tail buff, crossed towards the apex by a broad dusky semicircular band; throat dusky; under surface bronzy green.

The figures are of the natural size.

LOPHORNIS HELENÆ.

J.Gould and H.C.Richter, del. et lith. *Hullmandel & Walton, imp.*

LOPHORNIS HELENÆ.

Princess Helena's Coquette.

Ornismya Helenæ, De Latt. Rev. Zool. 1843, p. 133.
Mellisuga Helenæ, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga*, sp. 86.
Lophornis helenae, Bonap. Consp. Gen. Av., p. 83, *Lophornis*, sp. 4.
——— *helena*, Ib. Rev. et Mag. de Zool. 1854, p. 257.
——— *Helenae*, Reichenb. Aufz. der Colibris, p. 12.

It will be seen that the bird figured in the accompanying Plate exhibits many extraordinary and peculiar features,—such a combination, in fact, as is not to be found in any other species; it is, moreover, as beautiful as it is *outré*, and these circumstances, combined with its great rarity, render it a highly desirable species to all collectors; the small number of specimens, however, that have been transmitted to Europe, and the high price they bear, have confined them to but few collections.

The native country of the *Lophornis Helenæ* is "Vera Paz near Petinck in the Republic of Guatemala," where I believe all the specimens that have yet been sent to Europe were obtained by M. De Lattre. Would that that gentleman had, prior to his sudden and untimely death, given to the world some account of the habits and manners of this curious bird, as well as of the many other interesting species which must have come under his notice during his lengthened sojourn among the Andean Humming Birds!

The female is so extremely rare, that, so far as I am aware, only two examples have been sent to Europe; one of these is in the collection of Mr. Leadbeater, who kindly lent it to me to complete my illustration of the species, and to whom I am also indebted for many other similar favours connected with my various works.

M. De Lattre named this species *Helenæ*, in honour of the Princesse Hélène d'Orléans: "Cette noble princesse, protectrice des arts, qu'elle encourage et qu'elle cultive avec tant de goût, et dont la grande infortune rehausse le beau caractère. Puisse la Princesse Hélène accueillir avec bonté cette hommage d'un voyageur, heureux, dans les contrées lointaines, de conquérir cette rarissime espèce pour lui donner le nom d'une épouse et d'une mère si chère à la France!"

The male has the face and bifurcated crest green; throat luminous golden green; the luminous throat-mark surrounded by a series of elongated feathers, those on the sides of the neck, which are the longest, being buff streaked with bluish black, while those of the centre are wholly black; from the occiput, on either side, three very long, narrow, pointed and hair-like black feathers; upper surface and wing-coverts coppery bronze; wings purplish brown; rump deep bronzy brown, separated from the general hue of the upper surface by a narrow band of white; tail deep rufous, the central feathers glossed with bronzy green, and the remainder margined externally with dark brown; chest golden bronze; the remainder of the under surface white, with a spot of golden bronze at the tip of each feather; bill flesh-colour, darker at the point.

The female has the head, upper surface, wing-coverts and abdomen bronzy green; throat white, with a spot of bronzy green at the tip of each feather; rump dark brown, crossed by a band of white; tail buff, crossed by a dusky band near the tip.

The figures on the accompanying Plate represent a male and a female of the natural size.

LOPHORNIS CHALYBEUS.

J. Gould, and H.C. Richter, del. et lith.

Hullmandel & Walton Imp.

LOPHORNIS CHALYBEUS.

Festive Coquette.

Trochilus chalybeus, Vieill. Ency. Méth. Orn., part ii. p. 574.—Temm. Pl. Col. 66. fig. 2.—Jard. Nat. Lib. Humming-Birds, vol. i. p. 129. pl. 18.

——— *festivus*, Licht. Verz. der Doubl., p. 14. No. 122.

Ornismya Vieillotii, Less. Hist. Nat. des Ois. Mou., p. 186. pl. 64.—Ib. Les Troch., p. 37. pl. 8, p. 41. pl. 9, p. 44. pl. 10, p. 46. pl. 11.

Mellisuga chalybea, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga*, sp. 90.

Lophornis chalybeus, Bonap. Consp. Gen. Av., p. 84, *Lophornis*, sp. 9.

Ornismya Audenetii, Less. Hist. Nat. des Ois. Mou. Supp., p. 102. pl. 2.

Trochilus Audenetii, Jard. Nat. Lib. Humming-Birds, vol. i. p. 127. pl. 17.

Colibri mystax, Spix, Av. Bras., tom. i. p. 82. Tab. LXXXII. fig. 3.

Mellisuga Audenetii, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga*, sp. 89.

Lophornis Audeneti, Bonap. Consp. Gen. Av., p. 84, *Lophornis*, sp. 6.

The climate of the rich province of Rio de Janeiro, so favourable to the production of a luxuriant vegetation, would seem to be equally propitious to animal life, for in few countries of the world are the quadrupeds, birds and insects more varied in character, or more remarkable for their beauty, and the interest which attaches to them: it is in this highly favoured region that the present elegant little Humming-Bird is to be found, its chief abode being the districts to the southward of the capital. It is a species which has attracted the notice of many naturalists, especially of those whose attention has been directed to the birds of Brazil; yet, strange to say, neither Vieillot, Temminck, Lesson, Jardine nor Spix have said anything more respecting it than that it is from such and such a locality; the following brief account of it will therefore be read with interest. Mons. A. Deyrolle of Paris, who has had ample opportunities of observing the bird in a state of nature, informs me that it is "abundant in the province of Santa Catharina, in Brazil, and is especially numerous in the environs of San Francisco do Sul, and at Palmitar, 30 miles from the mouth of the Rio San Francisco, in about $26\frac{1}{2}^{\circ}$ of S. latitude. It does not appear to migrate, as my brother believes that he has met with it all the year round. It seems to be attracted to the two places above mentioned, by the abundance of a tree called, in the language of the country, *Ainga*, the botanical name of which I am unable to give you. It is round the trunk of this tree that the bird is most commonly seen, often near the top; and it would seem to live on a kind of sugar which flows from its bark; or would it not rather be microscopic insects that it seeks for? It is not very wild: the noise produced by its wings when flying is so peculiar, that an ear a little accustomed to it will distinguish it from that accompanying the flight of all the other species inhabiting the same localities. It frequents the orange-trees and the Cofeyers during their flowering season. It does not seem to inhabit the woods, but to resort to all the open spots or clearings, especially where the Ainga trees are numerous."

Mr. Reeves tells me that it is found at St. Paul's, and occasionally, but very rarely, in Rio de Janeiro and Santa Catharina.

It will be seen that I have made the *Ornismya Audenetii* of Lesson synonymous with the present species; and as a proof that I am correct in so doing, I may mention, that, having written to M. Edouard Verreaux on the subject, he has favoured me with a reply, in which he says, "You could not have written to any one better able to answer your inquiry respecting the *T. Audeneti*. The example from which Lesson took his figure and description, was sold by my father to M. Audinet in 1827: after my return from the Cape of Good Hope, that gentleman's collection came into my possession; and upon reference to the specimen in question, I am at a loss to conceive what could have induced M. Lesson to figure it as distinct; for on comparison, I find that it is nothing more than an immature example of his *O. Vieilloti*," which is the *T. chalybeus* of Vieillot. M. Verreaux adds, that his father had received the bird from Brazil. The *T. mystax* of Spix is certainly identical with the bird here represented; and although this author considers it distinct, and points out some features in which he believes it to differ, I decidedly affirm that they constitute but one species.

The usual differences occur in the sexes that are found in the other members of the genus; the female

being destitute at all ages of the ornamental ruff so conspicuous in the male, and having the tail shorter and more largely tipped with buff.

The male has the forehead, line beneath the eye and the lengthened ear-coverts brilliant metallic green, with, in some lights, a golden lustre; back of the head, upper surface and wing-coverts bronzy green; across the rump a broad band of buffy white, below which is another band of chestnut-brown; wings purplish brown; upper tail-coverts bronzy green; tail purplish bronze, each feather narrowly margined with black and narrowly tipped with buffy white; throat glossy grass-green; lengthened plumes on each side of the neck olive-green, with a small spot of white at the extremity of each; under surface dark brown, with bronzy reflexions; centre of the breast ornamented with a number of greyish white plumes; across the lower part of the abdomen a mark of white; bill black; feet brownish black.

The female has the upper surface greenish bronze, inclining to brown on the crown; the under surface greyish white; the feathers of the throat streaked with brown; tail bronzy at the base, deepening into deep bronzy brown towards the extremity; the lateral feathers largely, and the central ones narrowly tipped with buff; back crossed by a band of buffy white, below which is another of chestnut-brown as in the male; the wings, bill and feet are also of the same hue as in that sex.

The Plate represents a male and a female of the natural size, on a Brazilian plant, of which a drawing was sent me by Mr. Reeves.

LOPHORNIS VERREAUXI.

J.Gould and H.C.Richter, del et lith

Hullmandel & Walton, Imp.

LOPHORNIS VERREAUXI.

Peruvian Coquette.

Trochilus Verreauxi, Bourc. Rev. Zoöl. 1853, p. 193.
Lophornis Verreauxi, Reichenb. Auf. der Col., p. 12.
Bellatrix verreauxi, Bonap. Rev. et Mag. de Zool. 1854, p. 257.

This species may be justly regarded as one of the most precious of the Humming-Birds, and it consequently ranks most highly in my estimation. It is a native of Peru, and the only specimens I have ever seen are in the collection of my friend M. Edouard Verreaux of Paris, after whom the bird has been named, as a just compliment to that gentleman's zeal for the promotion of natural science, particularly Ornithology. M. Verreaux has, with the utmost kindness and confidence, allowed me the use of these rarities in London for the purpose of enriching the present work; and I trust that both myself and my readers are duly sensible of his liberality in so doing.

The discovery of this bird will, I am sure, sufficiently bear out what I have so often said in other parts of this work respecting the little we yet know of the natural productions of those great ranges of mountains, the Cordilleras and the Andes, where, between the line of perpetual congelation and the hot valleys at their bases, so much diversity of country and climate occurs, that an area of a hundred leagues is almost equal to a continent in other parts of the globe. It is in some one of these hot valleys that in all probability this bird finds a congenial habitat, the confines of which it may possibly never leave: I am led to surmise this from the circumstance of some of the extinct volcanos having a fauna and a flora almost peculiar to themselves, and from the evidence afforded by the fact that the great snow-covered peaks of Chimborazo, Pichincha, Cotopaxi, &c., have their sides, immediately below their snow-lines, tenanted by species not to be found elsewhere. How long a time must elapse before we can become acquainted with all the productions of the great back-bone, so to call it, of the vast continent of America, stretching along its western side from Cape Horn to the Rocky Mountains!

The bird most nearly allied to this species is the *Lophornis chalybeus* of Brazil; but that bird, beautiful as it is, must give place to the *L. Verreauxi*, which, besides being more richly coloured, is adorned with a fine crest,—a character which appears to be common to both sexes, unless the specimen from which I have figured should prove to be a young male. I possess a skin from Bogota without a crest, which I have for a long time regarded as a female *L. Verreauxi*; if this should not be the case, there is yet another fine species, the male of which is unknown to us.

Forehead and patch below the eye glittering metallic grass-green; crest, back of the neck, wing-coverts, and abdomen deep oil-green, darkest on the latter; wings purplish brown; at the lower part of the back a narrow band of white; upper tail-coverts and tail deep chestnut-red, becoming darker towards the end, and slightly tipped with a greyish buff; throat and tuft on each side of the neck pale green, each feather of the latter with an oval spot of white at the tip.

The female has the head and crest brown; the general plumage paler than in the male; the band across the lower part of the back buffy white; the throat grey, and the tail more largely tipped with buffy white.

The Plate represents the male in two positions and the female, all of the natural size. The plant is the *Achimenes argyrostigma*.

DISCURA LONGICAUDA.

J Gould and H C Richter del et lith

Hullmandel & Walton Imp

DISCURA LONGICAUDA.

Racket-tail.

Trochilus longicaudus, Gmel. Edit. Linn. Syst. Nat., tom. i. p. 498.
L'Oiseau-mouche à raquettes, Buff. Hist. Nat. des Ois., tom. vi. p. 23.—Ib. Sonn. Edit., tom. xvii p. 177.—Vieill. Ois. Dor., tom. i. p. 98. pl. 52.
Mellisuga longicauda, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga*, sp. 55.
Discosura longicauda, Bonap. Consp. Gen. Av., p. 84, *Discosura*, sp. 1.
Discura longicauda, Bonap. Rev. et Mag. de Zool. 1854, p. 256.—Reichenb. Aufz. der Col., p. 8.
Trochilus platurus, Lath. Ind. Orn., vol. i. p. 317.—Vieill. Nouv. Dict. d'Hist. Nat., tom. vii. p. 370.—Ib. Ency. Méth. Orn., part ii. p. 569.—Drapiez, Dict. Class. d'Hist. Nat., tom. iv. p. 327.—Prince Max, Beit. zur Naturg. von Bras., p. 96.
Ornismya platura, Less. Hist. Nat. des Ois.-mou., pp. xxij, 136. pl. 40.—Ib. Ind. Gen. et Syn. des Ois. du Gen. *Trochilus*, p. xxiv.—Ib. Traité d'Orn., p. 277.
Mellisuga platura, Steph. Cont. of Shaw's Gen. Zool., vol. xiv. p. 242.
Racket-tailed Humming-bird, Lath. Gen. Syn., vol. ii. p. 782.—Shaw, Gen. Zool., vol. viii. p. 316.—Lath. Gen. Hist., vol. iv. p. 338.
Trochilus (*Ocreatus*) *ligonicaudus*, Gould in Proc. of Zool. Soc., part xiv. p. 86.
Discosura ligonicaudus, Bonap. Consp. Gen. Av., p. 84, *Discosura*, sp. 2.
Discura platura, Reichenb. Aufz. der Col., p. 8.

It is to be regretted that the inappropriate name of *longicaudus* must be retained for this elegant little bird; that of *platurus*, assigned to it by Latham, would be far more applicable; but the law of priority established by naturalists requires that the oldest name should be the one adopted, and I have no alternative but to bow to their decision.

Although the *Discura longicauda* has been long known to ornithologists, no information has reached us with respect to its habits and mode of flight, or on any other points connected with its economy. It does not belong, as might be supposed, to that division of the Humming-birds, found in the high mountains of Columbia and Peru, to which the generic name of *Spathura* has been given, but is much more intimately allied to the members of the genus *Gouldia*, which alliance is very clearly indicated by the band across the back, and by the form and colouring of the females. The native countries of this singular little bird are Cayenne, Guiana, and Demerara; it also extends its range to the northern parts of Brazil, being found, according to Mr. Reeves, in Bahia, Maranahaõ, and Para.

On reference to the above list of synonyms, it will be seen that I have given the name of *ligonicauda* to a bird belonging to this genus, being under the impression at the time that it was different, but I now believe it to be merely a local variety of this species.

Face and fore part of the neck green, which colour is continued on the chest, where the feathers become larger, longer, or tuft-like and more luminous, and some of them edged with grey; on the chin a small black spot; centre of the abdomen golden brown; lower part of the abdomen and under tail-coverts buffy brown; flanks golden green; wings purplish black; back and upper tail-coverts green; lower part of the back crossed by a band of buffy white; tail purplish brown, with a stripe of buff down the centre of each feather; the lateral feathers tapering and terminating in a large spatulate tip; bill black.

The female has the head greyish brown; upper and under surface green; across the lower part of the back a band of buffy white; upper tail-coverts black; wings purplish brown; tail grey, largely tipped with purplish black; a broad patch of black down the throat, bordered on each side by white.

The figures are of the natural size. The plant is the *Pitcairnia muscosa*.

GOULDIA POPELAIRI.

J Gould and H C Richter del et lith

Hullmandel & Walton Imp

GOULDIA POPELAIRI.

Popelaire's Thorn-tail.

Trochilus Popelairii, Du Bus, Esquisses Orn., pl. 6.
Mellisuga Popelairii, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga,* sp. 70.
Gouldia popelairi, Bonap. Consp. Gen. Av., p. 86, *Gouldia,* sp. 2.—Ib. Consp. Troch. in Rev. et Mag. de Zool. 1854, p. 257.

Were it possible to visit the planets, in search of the hidden secrets of nature, one could scarcely expect to find a greater number of remarkable novelties, in the way of birds, than have been revealed by the more recent explorations among the great Andean ranges, of which the present bird is certainly not one of the least interesting. Like the other members of the genus, to which the name of *Gouldia* has been given by Prince Charles Lucien Bonaparte, it is distinguished by the elegance of its form and by the beauty of its markings, to which in this case is added a graceful attenuated crest formed of lengthened hair-like plumes, two of which, as will be seen on reference to the accompanying Plate, extend far beyond the rest. The honour of first recording the existence of this species, is due to the Vicomte Du Bus of Brussels, who, when describing and figuring it some few years since in his "Esquisses Ornithologiques" above referred to, named it *Trochilus Popelairii*, in honour of the Baron Popelaire de Terloo, who had discovered it in Peru and enriched the Museum at Brussels with this and many other interesting objects obtained during his explorations in South America. The specimen from which M. Du Bus took his description remained for some time unique, but I have since obtained specimens procured in Peru by M. Warszewicz, more recently examples have been sent me from the neighbourhood of Popayan, and I am indebted to Mr. Mark, Her Majesty's Consul at Bogota, for a specimen collected in the vicinity of that city: it is clear then that the species enjoys a very wide range, extending over six or eight degrees of latitude in the elevated regions of Peru and Columbia. Mr. Mark tells me that the hot districts of Gramalote, an almost uninhabited part of the country to the eastward of Bogota, is one of the localities in which it is found; M. Warszewicz killed it at a considerable elevation among the Andes of Quindios; and M. Parzudaki, of Paris, informs me that it is met with in the Llanos de San Martins in New Grenada. This, I regret to say, is all the information I have been able to obtain respecting this little gem; we must therefore await the result of future explorations for an account of its habits, actions and economy. That it is a quick flier I am certain, from the conformation of its wings and its general structure.

The female offers the same difference in form from her mate that is found to exist in the sexes of *Gouldia Langsdorffi*; but the bright red hue of her legs and thighs at once indicates her specific relationship.

The male has the crown of the head, the shorter feathers of the crest, face and throat shining yellowish grass-green; lengthened filamentous feathers of the crest black; wings purplish brown; upper surface, wing- and upper tail-coverts golden green, across the rump a band of white expanding into a large patch on each flank, and overhanging the thighs, below this band the golden green deepens into blackish brown; centre of the abdomen black; flanks brown, with darker centres; under tail-coverts greyish white; upper surface of the tail steel-blue, passing into brown on the apical portion of the external feather; the shafts of the middle feathers white, those of the remainder white at the base and brown for the remainder of their length; on the under surface the tail-feathers are of a more lively steel-blue, and the shafts are white throughout their entire length; thighs and tarsi rust-red.

The female has the upper surface, wing-coverts, flanks and tail-coverts dark bronzy green, the bronzy hue predominating on the back; rump crossed by a band of white, below which the feathers are of a darker hue as in the male; chin and a stripe down each side of the neck from the angle of the mouth greyish white; centre of the throat and abdomen bluish black; tail-feathers deep steel-blue, grey at the base and tipped with white, the white increasing in extent as the feathers recede from the centre; thighs rust-red.

The figures represent the two sexes of the natural size. The pretty flower, *Loasa picta,* which, like the bird, is a native of the Andes, is copied with permission from the Botanical Magazine, a work of great merit and usefulness, whether we regard the scientific descriptions by Sir William J. Hooker and Mr. Smith, or the artistic figures by Mr. Fitch.

GOULDIA LANGSDORFFI.

J. Gould and H.C. Richter del. et lith

Hullmandel & Walton, Imp

GOULDIA LANGSDORFFI.

Langsdorff's Thorn-tail.

Trochilus Langsdorffi, Vieill. Ency. Méth. Orn., part ii. p. 574.—Temm. Pl. Col. 66. fig. 1. —Vieill. Ois. dor., tom. iii. ined. pl. 20.—Valenc. Dict. Sci. Nat., tom. xxxv. p. 493.—Less. Man. d'Orn., tom. ii. p. 77.—Ib. Ind. Gen. et Syn. du Gen. Trochilus, p. xxxii.

Ornismya Langsdorffii, Less. Hist. Nat. des Ois. Mou., p. 102. pl. 26; Supp., p. 129. pl. 16. —Ib. Les Troch., p. 101. pl. 35.—Jard. Nat. Lib. Humming Birds, vol. ii. p. 69. pl. 10.

Colibri hirundinaceus, Spix, Av. Sp. Nov. Bras., tom. i. p. 80. tab. lxxxi. fig. 2.

Mellisuga Langsdorffi, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga*, sp. 68.

Gouldia langsdorffi, Bonap. Consp. Gen. Av., p. 86, *Gouldia*, sp. 1.—Ib. Consp. Troch. in Rev. et Mag. de Zool. 1854, p. 257.

This beautiful species was discovered by M. Langsdorff, the Russian Consul at Rio de Janeiro, after whom it was named by Vieillot, as a compliment due to the zeal displayed by him in the pursuit of natural history while the companion of Krusenstern, in his celebrated voyage round the world, and during his residence in Brazil; subsequently, Dr. Spix, unaware of its having been already named, assigned to it the specific appellation of *hirundinaceus*.

Mr. Reeves, of Rio de Janeiro, informs me, that during some years it is very plentiful in that province, and equally scarce in others: "the young birds arrive in July, but the old ones do not make their appearance until September and October, and depart again in November. I have only seen two nests; one of which I gave to Prince William of Hesse, the other is in my own collection; they are both exactly alike, and both were found on old dry moss-covered trees."

That this bird enjoys a most extensive range over the interior of the country is very probable, for in a collection of birds lately transmitted from Quejos by Don Manuel Villavicencio, I found a specimen agreeing in every particular with those received from the province of Rio.

The female of this species, like the females of the other members of the genus, differs very considerably from the male. The tail-feathers are short, broad, and rounded at the end; and the centre ones scarcely a quarter of an inch in length, while the outer ones are upwards of three-quarters. In all probability the young birds of the year assume a similar plumage to that of the female.

The male has the crown of the head, throat and breast glittering metallic green, bounded below by a band of fiery orange-red; upper surface golden green with a band of white across the rump, expanding into a large patch on each side, and overhanging the thighs; upper part of the abdomen black; lower part of the abdomen, vent and under tail-coverts clouded greyish white; wings purplish brown; six middle tail-feathers and the bases of the lateral ones deep steel-blue, the remaining length of the latter brownish grey, the under surface of the shafts of the whole white; thighs greyish white, blotched with brownish black; bill black.

In the female the crown of the head and upper surface is bronzy green with a white mark across the rump, as in the male; chin black; a streak of white on each side from the angle of the mouth; throat spangled with bronzy green; central tail-feathers steel-blue fringed with white at the tip; lateral feathers greyish brown at the base, passing into steel-blue towards the extremity, and tipped with white; legs and thighs as in the male.

The figures, which are of the natural size, are intended to represent both sexes.

GOULDIA CONVERSII.

J.Gould and H.C.Richter, del. et lith

Hullmandel & Walton Imp

GOULDIA CONVERSI.

Convers' Thorn-tail.

Trochilus Conversii, Bourc. et Muls. Rev. Zool. 1846, p. 314. pl. 3.—Ib. Ann. Sci. Phys. &c. de Lyon, tom. ix. p. 313.

Mellisuga Conversii, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga*, sp. 69.

Gouldia conversi, Bonap. Consp. Gen. Av., p. 86, *Gouldia*, sp. 3.—Ib. Consp. Troch. in Rev. et Mag. de Zool. 1854, p. 257.

This species has many characters in common with its Brazilian prototype *Gouldia Langsdorffi*, but may be distinguished by the smaller size of its body, by its longer wings, by the absence of the scarlet band on the breast, and by the tuft of elongated greenish feathers which spring from the centre of the chest and supply its place as a decoration; the colours of the crown and throat are less brilliant and glittering; and another peculiarity is also observable, namely, that when the tail is closed the lengthened lateral feathers cross each other near the tip, assume an inward curvature, and nearly meet again at the point.

The temperate regions of the Andes from Bogota to Popayan is the native country of this rare species. It is named, says M. Bourcier, who first described it, after its discoverer, M. Convers, a French naturalist established at Bogota. Nothing has yet been recorded of its habits and economy.

The female has a larger tail than the female of its near ally, but in other respects is very similar.

The male has the head, face and throat shining grass-green; upper and under surface, wing-coverts, upper and under tail-coverts dark green; across the rump a band of white spreading into a large patch on the flanks; beyond this the rump has a deep chestnut tinge; wings purplish brown; thighs and legs black, blotched with greyish; upper surface of the tail-feathers steel-bluish black at the base, a stripe down the centre and the apical portions brown; under surface of the tail steely green with white shafts.

The female has the upper and under surface dark green, deepening into bronze on the rump, across which is a band of white as in the male; throat dull green, with an obscure mark of white on each side from the angle of the mouth; tail-feathers grey at the base, passing into steel-blue towards the extremity and tipped with white, the white increasing in extent on the lateral feathers; thighs as in the male.

The figures represent both sexes of the natural size.

GOULDIA LÆTITIÆ.

J Gould and H C Richter, del et lith

Hullmandel & Walton, Imp

GOULDIA LÆTITIÆ.

Letitia.

Trochilus Letitiæ, Bourc. Ann. de la Soc. Sci. de Lyon, May 7, 1852.
Gouldia lætitiæ, Bonap. Rev. et Mag. de Zool. 1854, p. 257.
——— *Laetitia*, Reichenb. Aufz. der Colibris, p. 12.

Here again I am indebted to M. Bourcier, this gentleman having kindly lent me his unique specimen of this, the fourth species of the genus *Gouldia*, and one of the most interesting of the *Trochilidæ*. I regret to say, that the female is at present unknown; in the absence, then, of that sex, I have figured the male in two positions on the accompanying Plate. It will scarcely be necessary to point out the distinguishing characters of this species, as, by even the most cursory glance at the figures given of this and the other members of the genus, they will at once be seen; I may state, however, that they consist in the brilliant colouring, not only of the face alone, but of the entire head, in the smaller size of the tail, and in the pointed form of the outer feathers of that organ. The white mark on the rump is common to all the members of the genus.

MM. Bourcier and Mulsant, who first described the species, state that it is a native of Bolivia, and that they have dedicated it "à la jeune enfant de M^me^. la Marquise Delgallo, fille de l'un des Ornithologistes les plus célèbres de l'Europe, M. le Prince Charles Bonaparte."

Head, face, throat and breast glittering green, tinged with a golden hue on the crown, and at the sides of the neck and lower part of the breast; upper surface golden brown, changing to coppery brown on the rump, across which is the usual band of white; first row of upper tail-coverts violet-red, the remainder golden green; wings purplish brown; tail bluish black; flanks golden; abdomen green, ornamented on the upper part with a patch of white feathers bordered with green; vent grey; under tail-coverts dark golden green, bordered with violaceous black, and narrowly fringed with fulvous; bill brown.

The figures are of the natural size.

TROCHILUS COLUBRIS, *Linn.*

J. Gould and H.C. Richter, del. et lith.

Hullmandel & Walton, Imp

TROCHILUS COLUBRIS, *Linn.*

Ruby-throated Humming-bird.

Trochilus Colubris, Linn. Syst. Nat., tom. i. p. 191.—Ib. Gen. Hist., vol. iv. p. 344.—Bonap. Syn. Birds of U. States, p. 98.—Wils. Am. Orn., vol. ii. p. 26. pl. 10. figs. 3, 4.—Vieill. Ency. Méth. Orn., part ii. p. 569.—Jard. Nat. Lib. Humming-birds, vol. i. p. 85. pl. 5.—Reichenb. Aufz. der Col., p. 12.—Audub. Birds of Am., vol. i. pl. xlvii.—Ib. Orn. Bio., vol. i. p. 248.—Sagra, Voy. de Cuba, pl. 21. fig. 1.—Swains. and Rich. Faun. Bor. Am. part ii. Birds, pp. xxvi, xxxvi, 323.

The Red-throated Humming-bird, Edw. Nat. Hist. &c., vol. i. p. 38. pl. 38.

Red-throated Honey-sucker, Penn. Arct. Zool., vol. ii. p. 176.

Mellisuga Carolinensis gutture rubro, Briss. Orn., tom. iii. p. 716. pl. xxxvi. figs. 5, 6.

——— *colubris*, Steph. Cont. of Shaw, Gen. Zool., vol. xiv. p. 247.

Le Rubis, Buff. Hist. Nat. des Ois., tom. vi. p. 13.—Vieill. Ois. Dor., tom. i. pp. 66, 69, 70. pls. 31, 32, 33.—Vieill. Ois. de l'Am., tom. i. pls. 31, 32.

L'Oiseau-mouche à gosier doré, Vieill. Ois. Dor., tom. i. p. 89. pl. 46.

Ornismya Colubris, Less. Hist. Nat. des Ois.-mou., pp. xvj. 151. pls. 48, 48*.—Ib. Les Troch., p. 1. pl. i.—Ib. Ind. Gen. et Syn. des Ois. du Gen. *Trochilus*, p. xxxiv.

Mellisuga colubris, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga*, p. 82.

The Humming-bird, Catesb. Nat. Hist. of Car. &c., vol. i. p. 65. pl. 65.

Although every species of Humming-bird inhabits either the great continent of America or the islands immediately adjacent, the subject of the present memoir is the only one usually seen in a state of nature by those travellers who wend their way across the Atlantic to the western world.

It was on the 21st of May, 1857, that my earnest day-thoughts and not unfrequent night-dreams of thirty years were realized by the sight of a living Humming-bird. To describe my feelings on the occasion would be no easy task; I leave them then to the imagination of my readers rather than make the attempt. In like manner I shall not give any narration of my own respecting this beautiful little bird, about which so much has been written by Wilson, Audubon, and others, but adopt the fairer course of giving copious extracts from the eloquent writings of those authors, and content myself with affording some additional information respecting the range of the species, its disposition in a state of captivity, &c. Second only to the gratification of seeing this Humming-bird in a state of nature was the pleasure I derived from a successful attempt to bring living examples to this country; unfortunately, their existence here was of short duration, but they lived long enough to prove that if other attempts be made, they will be rewarded with success. I have repeatedly stated in the present work, that many of the members of this family are migratory, while others are stationary, and some are restricted to exceedingly limited areas. The *Trochilus Colubris* is pre-eminently a migratory species, a great portion of its life being spent in passing from north to south, and *vice versâ*. Its range may be said to extend over nearly forty degrees of latitude, or from ten to fifty degrees north, on the eastern side of the American continent; I have received it in abundance from Guatemala, Mexico, Texas, the United States, and Canada, in which latter country Dr. Richardson observed it on the plains of the Saskatchewan, and Mr. Drummond found it breeding on the banks of the Elk River. The months in which the United States are favoured with its presence are May, June, July, August and September; it arrives in the Southern States as early as March, and as the season advances, gradually passes on towards the central and northern portions of the country, including Canada and even some parts of the Hudson's Bay territory. It breeds in all the above-mentioned countries, and frequently raises two broods a year. About the middle of September the great southern migration commences, and the bird winters in the more genial and warmer countries of Mexico and Guatemala. This then is all that it is necessary to say respecting its migration, unless it be to add, that I believe its movement to and from either country is very gradual, and that it is probably performed in the broad open daytime only, and not by night, as has been suspected by Audubon. The period of my visit to America being somewhat early in the season, my attempts to discover a living "Hummer" in the neighbourhood of New York during the second week in May were futile, and it was not until I arrived at the more southern city of Philadelphia that my wish was gratified by the sight of a single male in the celebrated Bartram's garden, whither I was conducted by my friend Mr. W. M. L. Baily, from whom I also received many other kind attentions.

When first seen, the bird was engaged in examining the blossoms of a lofty chestnut; but its

restlessness did not permit me to gratify my desire for a lengthened observation, and after vainly waiting for some time in the hope of its returning, I continued my walk under the high trees to another part of the grounds, where I was again gratified by seeing my little friend dart off from within a few feet of me: in this shady retreat it passed from shrub to shrub, now and then perching on some bare twig to rest in a state of quietude, or to preen its wings before again darting off to examine the flowers on the more lofty branches. The almost total absence of Humming-birds around Philadelphia proved to me that I was still too early for them, the lateness of the season of 1857 having retarded their movement, and the regularity of their arrival being evidently dependent upon the state of the trees and consequent supply of food; I therefore determined to proceed farther south to Washington, where, in the gardens of the Capitol, I had the pleasure of meeting with them in great numbers: in lieu, then, of the single individual in Bartram's garden, I was now gratified by the sight of from fifty to sixty on a single tree, and had an ample opportunity of observing these living gems, and of noticing their extraordinary movements and aërial evolutions to my heart's content. They were more amicably disposed than they are usually said to be. Disporting round the reddish flowers of a species of chestnut termed Buck-eye, both males and females were busily engaged in examining the blossoms, ever and anon retiring to some shady branches for the purpose of rest or to plume themselves. To say that these birds, of which several hundreds were to be seen within the area of as many yards, were in this instance not amicably disposed towards each other, would be untrue; a little brush now and then, and an occasional tilting-match between two males, certainly did occur, but the greater number were evidently too much occupied in the search for food to waste time in fighting. I suspect that the pugnacity of the males so graphically described by Wilson principally occurs during the breeding season, when their fury is said to have no bounds. My scientific friend Dr. Baird, who was with me at the time, will, I am sure, confirm what I have said with regard to the numbers seen on this occasion.

Having now observed the bird in a state of nature, my next object was to obtain living examples for more close examination, and through the kindness of Baron Osten-Sacken, the nephew of the great General, a member of the Russian diplomatic corps at Washington, and an excellent entomologist, a specimen was soon procured for me in one of the conservatories of the city, and great was my delight in taking possession of the little captive. A small insect gauze net, about six inches in diameter, distended by a light hoop, was soon manufactured for its reception, and, although sadly buffeted about, the bird, within an hour of its capture, readily took sugar and water from a spoon held in the hand: this boldness led me to hope that it would soon become familiarized with its little domicile. I accordingly suspended it from a button of my coat, and carried it about with me wherever I went, offering it every half-hour a small bottle filled with sugar and water, into which it thrust its long bill through the gauze bag, and pumped up the fluid through its more lengthened tubular tongue. In this way it travelled with me for two days across the Alleghany Mountains, and would doubtless have continued to do well, had I not, at the end of a dusty and tremendously jolting ride, given it a bath to free it from the dirt which had accumulated on its tail and wings during the journey, from the effects of which it sickened and died. In recording my obligations to Baron Osten-Sacken, it must not be supposed that I am unmindful of the attentions rendered me with the same object by every one at Washington, including His Excellency the President, our own minister, Lord Napier, Mr. Russell, and others.

A few days' travelling by way of Ohio and Lake Erie brought me to Canada. At the "Falls" the "Hummers" had but just arrived, and only a few males were to be seen; at Toronto they were still fewer in number. At one P.M. on the 5th of June, when passing down the St. Lawrence, I observed a fine male cross the bows of the vessel from the southern to the northern shore near the Long Sault Rapid; it was evidently migrating. In the garden of G. C. Tunstall, Esq., opposite St. Ann's Rapids, Bout-de-l'Ile, near Montreal, rendered classical by Moore's well-known Canadian Boat-song, the Humming-birds on the 8th of June were very abundant, even flitting about the lilac trees which overshadowed the porch at the house where, Mrs. Tunstall informed me, Moore sat and composed his celebrated song; and I feel that I should be wanting in courtesy were I not thus publicly to acknowledge my obligations to this kind lady for permission to shoot two of these little tenants of her garden, which, when informed they were required for a scientific purpose, she readily accorded; but at the same time assured me that on no other account would she have allowed one of these little wanderers to be destroyed, for they were by her both cherished and beloved.

Having accomplished all that I could expect to do, during so short a visit, with regard to observing the *Trochilus Colubris* in a state of nature, a strong desire prompted me to attempt the bringing of living examples across the Atlantic; and upon this desire becoming known to Sidney Augustus Schiefflin, Esq., of Madison Square, New York, that gentleman very obligingly presented me with a pair, male and female, then living in his house, in perfect health, in the finest state of plumage. My greatest anxiety was to get them past the Banks of Newfoundland in safety, where the thermometer frequently falls below the freezing-point. Through the kindness of Captain Shannon, who afforded me every facility, this was achieved, and they reached the shores of England; one of them, however, unfortunately died as we came up the Channel; the other reached London, and lived for two days at my house in Broad Street. During the voyage they were fed with syrup made of sugar and water, with the trifling addition of the yelk of an unboiled egg as a substitute for their animal food.

"The Humming-bird," says Wilson, "makes its first appearance in Georgia, from the south, about the 23rd of March, two weeks earlier than it does in the county of Burke, sixty miles higher up the country towards the interior, and at least five weeks sooner than it reaches this part of Pennsylvania. As it passes on to the northward, as far as the interior of Canada, where it is seen in great numbers, the wonder is excited, how so feebly constructed and delicate a little creature can make its way over such extensive regions of lakes and forests, among so many enemies, all its superiors in strength and magnitude. But its very minuteness, the rapidity of its flight, which almost eludes the eye, and that admirable instinct, reason, or whatever else it may be called, and daring courage which Heaven has implanted in its bosom, are its guides and protectors.

"About the 25th of April, the Humming-bird usually arrives in Pennsylvania, and about the 10th of May begins to build its nest. This is generally fixed on the upper side of a horizontal branch—not among the twigs, but on the body of the branch itself. Yet I have known instances where it was attached by the side to an old moss-grown trunk, and others where it was fastened on a strong rank stalk or weed in the garden, but these cases are rare. In the woods, it very often chooses a white-oak sapling to build on; and in the orchard or garden, selects a pear-tree for that purpose. The branch is seldom more than ten feet from the ground. The nest is about an inch in diameter, and as much in depth. A very complete one is now lying before me, and the materials of which it is composed are as follows:—The outward coat is formed of a small species of bluish-grey lichen that vegetates on old trees and fences, thickly glued on with the saliva of the bird, giving firmness and consistency to the whole, as well as keeping out moisture. Within this are thick-matted layers of the fine wings of certain flying seeds, closely laid together; and, lastly, the downy substance from the great mullein, and from the stalks of the common fern, lines the whole. The base of the nest is continued round the stem of the branch, to which it closely adheres, and, when viewed from below, appears a mere mossy knot or accidental protuberance. The eggs are two, pure white, and of equal thickness at both ends . . . . . On a person's approaching their nest, the little proprietors dart around with a humming sound, passing within a few inches of one's head; and should the young be newly hatched, the female will resume her place on the nest, even while you stand within a yard or two of the spot. The precise period of incubation I am unable to give; but the young are in the habit, a short time before they leave the nest, of thrusting their bills into the mouths of their parents, and sucking what they have brought them. I never could perceive that they carried them any animal food, though I think it highly probable that they do. As I have found their nests as late as the 12th of July, I do not doubt but that they frequently, and perhaps usually, raise two broods in the same season.

"The Humming-bird is extremely fond of tubular flowers, and I have often stopt with pleasure to observe his manœuvres among the blossoms of the Trumpet-flower. When arrived before a thicket of these that are full-blown, he poises or suspends himself on wing for the space of two or three seconds, so steadily that his wings become invisible, or only like a mist, and you can plainly distinguish the pupil of his eye looking round with great quickness and circumspection: the glossy golden green of his back, and the fire of his throat, dazzling in the sun, form altogether a most interesting appearance. When he alights, which he frequently does, he always prefers the small dead twigs of a tree or bush, where he dresses and arranges his plumage with great dexterity. His only note is a single chirp, not louder than that of a small cricket or grasshopper, generally uttered while passing from flower to flower, or when engaged in fight with his fellows; for when two males meet at the same bush or flower, a battle instantly takes place, and the combatants ascend in the air, chirping, darting and circling round each other, till the eye is no longer able to follow them. The conqueror, however, generally returns to the place to reap the fruits of his victory. I have seen him attack, and for a few moments tease, the King Bird; and have also seen him, in his turn, assaulted by a Humble-bee, which he soon put to flight. He is one of those few birds that are universally beloved; and amidst the sweet dewy serenity of a summer's morning, his appearance among the arbours of honeysuckles and beds of flowers is truly interesting.

"This little bird is extremely susceptible of cold, and if long deprived of the animating influence of the sunbeams, droops, and soon dies. A very beautiful male was brought to me, which I put into a wire cage, and placed in a retired shaded part of the room. After fluttering about for some time, the weather being uncommonly cool, it clung by the wires, and hung in a seemingly torpid state for a whole forenoon. No motion whatever of the lungs could be perceived on the closest inspection, though at other times this is remarkably observable; the eyes were shut; and, when touched by the finger, it gave no signs of life or motion. I carried it out to the open air and placed it directly in the rays of the sun, in a sheltered situation. In a few seconds, respiration became very apparent; the bird breathed faster and faster, opened its eyes, and began to look about, with as much seeming vivacity as ever. After it had completely recovered, I restored it to liberty, and it flew off to the withered top of a pear-tree, where it sat for some time dressing its disordered plumage, and then shot off like a meteor.

"The flight of the Humming-bird from flower to flower greatly resembles that of a bee, but is so much more rapid, that the latter appears a mere loiterer to him. He poises himself on wing, while he thrusts his long, slender, tubular tongue into the flowers in search of food. He sometimes enters a room by the window, examines the bouquets of flowers, and passes out by the opposite door or window. He has been known to take refuge in a hothouse during the cool nights of autumn, to go regularly out in the morning, and to return as regularly in the evening, for several days together.

"To enumerate all the flowers of which this little bird is fond, would be to repeat the names of half our American flora. From the blossoms of the towering poplar or tulip-tree, through a thousand intermediate flowers, to those of the humble larkspur, he ranges at will, and almost incessantly. Every period of the season produces a fresh multitude of new favourites. Towards the month of September, a plant with a yellow flower grows in great luxuriance along the sides of creeks and rivers, and in low moist situations, to the height of two or three feet, and the flower, which is about the size of a thimble, hangs in the shape of a cap of liberty above a luxuriant growth of green leaves. It is the *Balsamina noli me tangere* of botanists, and is the greatest favourite of the Humming-bird of all our other flowers. In some places where these plants abound, you may see, at one time, ten or twelve Humming-birds darting about, and fighting with and pursuing each other. About the 20th of September they generally retire to the south. I have, indeed, sometimes seen a solitary individual on the 28th and 30th of that month, and sometimes even in October, but these cases are rare. About the beginning of November they pass the southern boundary of the United States into Florida."

"No sooner," says Audubon, "has the returning sun again introduced the vernal season, and caused millions of plants to expand their leaves and blossoms to his genial beams, than the little Humming-bird is seen advancing on fairy wings, carefully visiting every flower-cup, and, like a curious florist, removing from each the injurious insects that otherwise would, ere long, cause their beauteous petals to droop and decay. Poised in the air, it is observed peeping cautiously and with sparkling eye into their innermost recesses, whilst the ethereal motions of its pinions, so rapid and so light, appear to fan and cool the flower without injuring its fragile texture, and produce a delightful murmuring sound, well adapted for lulling the insects to repose. This is the moment for the Humming-bird to secure them. Its long delicate bill enters the cup of the flower, and the protruded double tongue, delicately sensible, and imbued with a glutinous saliva, touches each insect in succession, and draws it from its lurking place, to be instantly swallowed. All this is done in a moment, and the bird, as it leaves the flower, sips so small a portion of its liquid honey, that the theft, we may suppose, is looked upon with a grateful feeling by the flower, which is thus kindly relieved from the attacks of her destroyers.

"The prairies, the fields, the orchards and gardens, nay, the deepest shades of the forest, are all visited in their turn, and everywhere the little bird meets with pleasure and with food. Its gorgeous throat in beauty and brilliancy baffles all competition. Now it glows with a fiery hue, and again it is changed to the deepest velvet-black. The upper parts of its delicate body are of resplendent changing green; and it throws itself through the air with a swiftness and vivacity hardly conceivable. It moves from one flower to another like a gleam of light, upwards, downwards, to the right, and to the left."

When speaking of their migrations, Audubon states that "they pass through the air in long undulations, raising themselves for some distance at an angle of about 40°, and then falling in a curve; but the smallness of their size precludes the possibility of following them farther than fifty or sixty yards without great difficulty, even with a good glass . . . . They do not alight on the ground, but easily settle on twigs and branches, where they move sideways in prettily measured steps, frequently opening and closing their wings, pluming, shaking, and arranging the whole of their apparel with neatness and activity. They are particularly fond of spreading one wing at a time, and passing each of the quill-feathers through their bill in its whole length, when, if the sun be shining, the wing thus plumed is rendered extremely transparent and light. They leave the twig without the least difficulty in an instant, and appear to be possessed of superior powers of vision, making directly towards a Martin or Blue-bird when fifty or sixty yards from them, before they are aware of their approach . . . . Their food consists principally of insects, generally of the coleopterous order, these, together with some equally diminutive flies, being commonly found in their stomachs. The first are procured within the flowers, but many of the latter on wing."

The male has the whole of the back, upper part of the neck, flanks, tail-coverts and two middle tail-feathers of a rich golden green; wings and tail purplish brown; under surface of the body white tinged with green; throat ruby-red, changing, according to the position in which it is viewed, from deep black to fiery crimson or burning orange; bill, eyes, legs and feet black.

The female resembles the male in her general plumage, but is destitute of any brilliancy on the throat, and has the tail tipped with white.

The young birds of both sexes during the first season have the tail tipped with white, and the whole of the under surface dull white. The ornamental feathers on the throat of the young males begin to appear in the month of September (Wilson).

The figures represent the two sexes of the size of life.

TROCHILUS ALEXANDRI.

J Gould and H C Richter, del. et lith.

Hullmandel & Walton, Imp

TROCHILUS ALEXANDRI.

Purple-throated Humming-bird.

Trochilus Alexandri, Bourc. et Muls. Ann. de la Soc. Sci. de Lyon, tom. ix. 1846, p. 330.—
Cassin, Ill. Birds of California, p. 141. pl. 22.
Mellisuga Alexandri, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga,* sp. 80.
Archilochus Alexandri, Reich. Aufz. der Col., p. 13.
Trochilus alexandri, Bonap. Rev. et Mag. de Zool. 1854, p. 256.

The native countries of this modestly-coloured, but pretty species of *Trochilus* are Mexico, California and Texas, and it will be seen from the following note by Mr. Cassin, that the United States also lays claim to it as part of its fauna. It was through the exertions of the late Signor Floresi, that most, if not all the specimens which now adorn the collections of Europe have been procured, all of which were obtained in the table-lands in the vicinity of the celebrated Real del Monte Mines; but that it extends its range over a vast area northward of the city of Mexico, in all such localities as are favourable to its existence, is more than probable. In its structure and in the disposition of its markings it is precisely similar to the *T. Colubris*, from which, however, it is specifically distinct, as will be immediately seen on an examination and comparison of the Plates of the two species.

Since the publication of Mr. Cassin's figure in his "Birds of California," a doubt has been expressed by Prince Charles L. Bonaparte as to whether the bird there represented be not distinct from that found in Mexico, and, believing this to be the case, he has proposed the name of *Cassini* for it,—a term, however, which I have not yet seen in print. The propriety of this step was one of the points in connexion with this group of birds which it became incumbent upon me to investigate during my recent visit to the United States, and I can state that, upon comparing Dr. Heermann's birds, from which Mr. Cassin's description and figure were taken, with others from Mexico, no difference whatever was observable; I regret to have to add, that my friend Cassin's Plate gives a very indifferent representation of the bird, and as the Prince had this Plate only, from which to form an opinion respecting the Californian specimens, he may be readily excused for considering them to be distinct from those from Mexico.

"Within the limits of the United States," says Mr. Cassin, "the Humming-bird now before the reader has been noticed only by Dr. Heermann, whose fine collection, made in California, contained numerous specimens. He detected it in one locality only,—the burying-ground at Sacramento City. There several pairs remained during the season of incubation, and reared their young, finding suitable food and protection among the flowering plants with which, with great feeling and propriety, that last resting-place of the emigrant and stranger has been adorned.

"Dr. Heermann represents the nest as composed of fine mosses, lined with the feathery down of various seeds, and containing two white eggs. He saw this bird also at Guaymas in Mexico."

The female of this species, like the female of *T. Colubris*, differs very considerably from the male in the total absence of the black and rich purple colouring of the throat.

This species was named *Alexandri* by MM. Bourcier and Mulsant, in honour of Dr. Alexandre of Mexico, by whom it was first discovered.

The male has the head dark brown; all the upper surface dark bronzy-green; wings purplish-brown; central tail-feathers bronzy-green; the lateral ones black, slightly glossed with green; throat deep velvety-black, bounded below by a band of rich metallic purple; across the breast a band of greyish-white; under surface dull bronzy-grey; bill and feet black.

The female has the head brown; upper surface bronzy-green; wings purplish-brown; central tail-feathers bronzy-green; the lateral ones grey at the base, then black, and lastly tipped with white; under surface greyish-white; the throat speckled with brown.

The Plate represents the two sexes of the natural size. The plant is the *Eriogonum compositum.*

MELLISUGA MINIMA.

Little Humming-Bird.

Trochilus minimus, Linn. Syst. tom. i. p. 193.—Ib. Gmel. tom. i. p. 500.—Lath. Ind. Orn., vol. i. p. 320.—Edw. Glean., tom. ii. p. 105. pl. 105.—Shaw, Gen. Zool., vol. viii. p. 347.

Mellivora Avis minima, Sloane, Jam., p. 307. No. xxxviii. tab. 264. fig. 1.

Polytmus minimus variegatus, Brown, Nat. Hist. of Jam., p. 475 female.

Le plus petit Oiseau mouche, Buff. Hist. des Ois., tom. vi. p. 11. pl. 1.—Pl. Enl. 276. fig. 1.

L'Oiseau mouche à ventre gris, Vieill. Ois. dor., tom. i. pl. 53. p. 99.

Le très petit Oiseau mouche, Vieill. Ois. dor., tom. i. pl. 64. p. 113.

Trochilus minutulus, Vieill. Ois. de l'Am. Sept., tom. ii. p. 73.

Mellisuga, Briss. Orn., tom. iii. p. 695. pl. xxxvi. fig. 1.—Ib. 8vo. tom. ii. p. 29.

——— *Dominicensis*, Briss. Orn., tom. iii. p. 702. pl. xxxvi. fig. 8.

Trochilus Vieilloti, Shaw, Gen. Zool., vol. viii. p. 347.

Mellisuga Vieilloti, Steph. Cont. of Shaw's Gen. Zool., vol. xiv. p. 249.

Ornismya minima, Less. Ois. Mou., pl. 79, fem.—Ib. Ind. Gen. et Syn. des Ois. du Gen. Trochilus, p. xxvii.

Least Humming-Bird, Lath. Gen. Syn., vol. ii. p. 788.—Shaw, Nat. Misc. vol. xii. pl. 489.—Ib. Zool. Lect., vol. i. pl. 62.—Lath. Gen. Hist., vol. iv. p. 359.

Mellisuga humilis, Gosse, Birds of Jam., text, p. 127.

Trochilus Catharinæ, Sallé, Rev. Zool. 1849, p. 498.

Hylocharis nigra, Gray and Mitch. Gen. of Birds, vol. i. p. 114, *Hylocharis*, sp. 16.

Mellisuga minima, Bonap. Consp. Gen. Av., p. 81.

Trochilus niger, Gmel., Lath., &c.?

In referring the above long list of synonyms to one and the same species of Humming-Bird, I know that I am deviating from the opinion of some writers on the subject; but after devoting the utmost attention to the matter, I have been unable to arrive at any other conclusion; at the same time I am open to conviction: if any proofs that I am in error can be adduced before the completion of the present work, I shall be happy to rectify any mistakes into which I may have fallen. I may state, however, that my own view is entirely coincided in by M. Bourcier, a gentleman, whose long attention to, and ample opportunities for acquiring a knowledge of the subject, render his opinion of the highest value; he has, moreover, given me permission to state that he believes the celebrated little Humming-Bird of the Loddigesian collection, formerly in that of Mr. Leadbeater, and earlier still in that of Mr. Bullock, to be an immature bird of the species here figured; it is but fair, however, to state that this was not the opinion of the late Mr. George Loddiges, who considered it to be a distinct species, and the minute egg accompanying it to be genuine: for myself, I must say, that, so far as I am able to judge from an examination of the specimen through the glass-case in which it is deposited, it appears to me to be an immature bird of this or some other species.

The *Mellisuga minima* is very generally dispersed over nearly the whole of Jamaica and the greater portion of St. Domingo, but has not as yet been found elsewhere; those islands may therefore be regarded as its true habitat. Its small size having attracted very general observation, more has been written respecting this little Humming-Bird than any other known species; the most lucid and valuable account of its habits and economy is that given by Mr. Gosse in his very interesting work on the "Birds of Jamaica," which I am sure his well-known desire for the promotion of science will induce him to excuse my transcribing from somewhat largely. After giving his reasons for believing this bird to be distinct from the *Trochilus minimus* of the older authors, Mr. Gosse says,—

"I have ventured to give to the present species the specific appellation of *humilis*, from its habit of buzzing over the low herbaceous plants of pastures, which our other species do not. The West Indian Vervain (*Stachytarpheta*) is one of the most common weeds in neglected pastures, shooting up everywhere its slender columns, set round with blue flowers, to the height of a foot. About these, our little Humming-Bird is abundant during the summer months, probing the azure blossoms a few inches from the ground. It visits the spikes in succession, flitting from one to another, exactly in the manner of the honey-bee, and with

the same business-like industry and application. In the winter, the abundance of other flowers and the paucity of vervain-blossoms induce its attentions to the hedgerows and woods.

"I have sometimes watched, with much delight, the evolutions of this little species at a moringa-tree. When only one is present, he pursues the round of the blossoms soberly enough, sucking as he goes, and now and anon sitting quietly on the twig. But if two are about the tree, one will fly off, and suspending himself in the air a few yards distant, the other presently shoots off to him, and then, without touching each other, they mount upward with a strong rushing of wings, perhaps for five hundred feet; they then separate, and each shoots diagonally towards the ground, like a ball from a rifle, and wheeling round, comes up to the blossoms again, and sucks, and sucks, as if it had not moved away at all. Frequently one alone will mount in this manner, or dart on invisible wing diagonally upward, looking exactly like a humble-bee. Indeed the figure of the smaller Humming-Birds on the wing, their rapidity, their arrowy course, and their whole manner of flight are entirely those of an insect; and one who has watched the flight of a large beetle or bee, will have a very good idea of one of these tropic gems painted against the sky. I have observed all the three Jamaican species engaged in sucking the blossoms of a moringa-tree, and have noticed that, whereas *Polytmus* and *Mango* expand and depress the tail, when hovering before flowers, the *humilis*, on the contrary, for the most part erects the tail, but not invariably.

"The present is the only Humming-Bird which I am acquainted with that has a real song. Soon after sunrise in the spring months, it is fond of sitting on the topmost twig of a mango or orange tree, where it warbles, in a very weak but very sweet tone, a continuous melody for ten minutes at a time: it has little variety. The others have only a pertinacious chirping.

"The small bushes of *Lantana*, so common by roadsides, and always covered with orange and yellow blossom, are favourite situations for the domestic economy of this minute bird. The smooth twigs of the bamboo also are not unfrequently chosen. It is not an uncommon thing in Jamaica for a road up a mountain to be cut in zigzag terraces to diminish the steepness; and to prevent the lower side of such a road from crumbling away, stems of green bamboo are cut and laid in a shallow trench along the edge. Shoots spring from every joint, and soon a close row of palisades are growing along the margin of the road, the roots of which, as they spread, effectually bind together the mountain-side, and make the terrace perpetual; while, as they increase in height and thickness, they throw their gracefully waving tufts over the way, like gigantic ostrich plumes, affording a most refreshing screen from the heat. Such a *bamboo-walk*, as it is called, winds up the side of Grand Vale Mountain in St. Elizabeth's, and here the nests of the Vervain Humming-Bird are frequently met with. Being up this road, on a day in June, I found two nests attached to twigs of bamboo, and one just commenced. Two parallel twigs were connected together by spiders' webs, profusely but irregularly stretched across, and these held a layer of silk-cotton, which just filled up the space, about an inch square, between them. The others were complete cups of silk cotton exceedingly compact and neat, ornamented outside with bits of grey lichen stuck here and there. In neither of the other Jamaican species is the oscillation of the wings so rapid or so great in extent; and hence with this bird alone does the sound produced by the vibration of the wings acquire the sharpness of an insect's hum. The noise produced by the hovering of a *Polytmus* is a whirring sound, exactly like that caused by a wheel put into rapid revolution by machinery; that of *humilis* is a hum, like that of a large bee.

"The spirit of curiosity is manifested by this little bird as well as by the larger species. When struck at it will return in a moment, and peep into the net or hover just in one's face. The stories told of Humming-Birds attacking men, and striking at the eyes with their needle-like bills, originated, I have no doubt, in the exaggeration of fear misinterpreting this innocent curiosity."

M. Lesson remarks, that this species is certainly the smallest member of the family with which we are acquainted, and is without doubt the "very little Humming-Bird" of travellers; that it is a native of St. Domingo, where it sometimes places its nest upon the branches, at others in the fork of a branch; the exterior is covered with lichens, while the interior is woven of the cotton of the *Bombax cieba*; occasionally the filaments are interlaced among long spines, which gives to the delicate nest a solidity and firmness not otherwise attainable. The incubation of its two eggs occupies twelve days; the young emerge on the thirteenth, and remain in the nest for seventeen or eighteen days. The tree which the bird mostly frequents is the *Cytisus cajau*, Linn.

The male has the head, upper surface of the body, wing-coverts, upper tail-coverts and flanks dark shining green; wings purplish brown; tail deep black; chin and throat white speckled with black; breast white; abdomen whitish, each feather tipped with green; vent white; under tail-coverts white, faintly tipped with green; irides, bill and feet black.

In the female the green of the upper surface is of yellower tint, and extends halfway down the central tail-feathers; the whole of the under surface is pure white, and the lateral tail-feathers are largely tipped with white.

The Plate represents a male, a female, and a nest with two eggs, all of the natural size.

CALYPTE COSTÆ.

J Gould and H C Richter, del. et lith.

Hullmandel & Walton

CALYPTE COSTÆ.

Costa's Calypte.

Ornismya Costæ, Bourc. Rev. Zool. 1839, p. 294.—Ib. Ann. de la Soc. Sci. de Lyon, 1840, p. 225. pl. 2.—Voy. de la Vénus, pl. 2.—Longuem. et Parz. Rev. Zool. 1840, p. 71.

Mellisuga Costæ, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga*, sp. 83.

Selasphorus Costæ, Bonap. Consp. Gen. Av., p. 82, *Selasphorus*, sp. 4.—Ib. Rev. et Mag. de Zool. 1854, p. 257.

Atthis Costae, Reichenb. Aufz. der Colibris, p. 12.

Trochilus Costae, Reichenb. Troch. enumer., p. 10.

Here we have a very beautiful little bird, conspicuous not only for the rich brilliancy of its head and throat, but for the colouring of those parts being of an unusual hue—a glittering metallic-lilac, neither easy to describe nor to depict, and which can only be feebly represented even with the aid of silver and the finest copal colours; indeed, to acquire anything like a correct notion of its beauty, the bird itself must be seen, neither description nor figure giving an adequate idea of its splendour. I am indebted for numerous specimens of this lovely bird to the late M. Floresi, who collected them in the valleys of the Sierra Madre in Mexico. From thence, throughout the western part of Mexico, and in some parts of California, the bird is probably found.

The first description of this bird appeared in the "Revue Zoologique" for 1839, from the pen of M. Bourcier, who gave it the specific appellation of *Costæ*, in honour of the Marquis de Costa of Chambéry, the possessor of a very beautiful collection of birds. In the form of its tail, and in the extent of the metallic colouring of its head and throat, it bears a striking resemblance to the *C. Annæ*, but is at once distinguished from that species by its smaller size, as well as by the different hue of the head and neck. Of its habits and economy nothing has yet been recorded.

The sexes present nearly the same differences that are observable in those of *C. Annæ*.

The male has the head, ear-coverts, throat, and the elongated ruff-like feathers on the sides of the neck, brilliant deep metallic-lilac; all the upper surface and wing-coverts golden green; wings purple-brown; six central tail-feathers bronzy green; two outer tail-feathers brownish grey with darker tips; under surface dull white, washed with bronzy green on the flanks; bill and feet blackish brown.

At a younger age the head is of the same hue as the body; a few of the fine feathers of the throat have appeared; the abdomen is bronzy green; the apical half of the outer tail-feathers are black, and their tips white.

In the female the whole of the upper surface is dull golden green; under surface dull greyish white, with a few dots of brown on the throat; wings purplish brown; central tail-feathers bronzy green; lateral feathers grey at the base, succeeded by deep black, and tipped with white.

The figures are the size of life. The plant is the Logwood (*Lignum Campechianum*).

J.Gould and H.C.Richter del et lith.

CALYPTE ANNÆ.

Anna's Calypte.

Ornismya Anna, Less. Hist. Nat. des Ois. Mou., p. 205. pl. 74.—Ib. Traité d'Orn., p. 281.

Trochilus Anna, Jard. Nat. Lib. Humming Birds, vol. i. p. 93. pl. 6.—Aud. Birds of Amer., vol. iv. pl. ccccxxv.—Ib. Orn. Biog., vol. v. p. 238.—Ib. Syn. of Birds of N. Amer., p. 170.—Reichenb. Troch. enumer., p. 10.

Mellisuga Anna, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga*, sp. 61.

Selasphorus Anna, Bonap. Consp. Gen. Av., p. 82, *Selasphorus*, sp. 2.—Ib. Rev. et Mag. de Zool. 1854, p. 257.

Calliphlox anna, Gambel, Notes on Californian Birds.

Atthis Anna, Reichenb. Aufz. der Colibris, p. 12.

Trochilus icterocephalus, Nutt. Man. Orn., vol. i. 2nd Edit. p. 712.

When studying the diversified forms and colouring of the Trochilidæ, I have frequently been struck with the fact that those districts or countries having a metalliferous character are tenanted by species of Humming Birds which are more than ordinarily brilliant and glittering. This is especially the case with the species inhabiting Mexico and California: in illustration of this assertion, I may cite the three Californian species, *Selasphorus rufus*, *Calypte Costæ*, and the present bird, *C. Annæ*, all of which are unequalled, for the rich metallic brilliancy of certain parts of their plumage, by any other members of the family. The two latter, *C. Costæ* and *C. Annæ*, have not only the throat, but the entire head as glitteringly resplendent as if they had been dipped in molten metal. Now whether there be any influence exerted by inorganic upon organic nature, is an enigma which will probably remain unsolved for some time to come; certain it is that it cannot be explained by any of the natural laws at present known to us; and, after all, it may only be one of those remarkable coincidences which so frequently occur; still I trust I may be excused for calling attention to a point which appeared to me to be of much interest.

The very lovely bird here represented, and which has been named in honour of Anna, Duchess of Rivoli, ranges over the whole of the table-lands of Mexico, and throughout California to the base of the Rocky Mountains in North-Western America.

I am indebted to Dr. Gambel, of Philadelphia, who has had opportunities of observing this bird in its native wilds, for the following interesting extract from his "Notes on the Birds of California":—

"A very abundant and interesting species, numbers passing the winter in California; at such times inhabiting sheltered hill-sides and plains, where at all seasons a few bushy plants are in flower, and afford it a scanty subsistence. They appear, however, in greater numbers about the latter part of February and during the month of March; the country is soon carpeted with flowers, and the Anna Humming Bird, revelling among their sweets, commences the duty of rearing its young. About the Pueblo, the vineyards and gardens are its favourite resort, forming its delicate downy nest in a small flowering bush, or some concealed spot about the fence. In April and May these may be found in almost every garden.

"In other parts it attaches its nest almost exclusively to a low, horizontal branch of the evergreen oak (*Quercus agrifolia*), so common throughout the country; the nest is small, being about an inch in depth, and one and a quarter in diameter; it is not very thick, and is formed in the most delicate manner of pappus and down of various plants, held together and matted into a soft felt with spiders' webs, which latter I have frequently observed them collecting for the purpose, in the spring, along hedges and fence-rows, and at first supposed they were only searching them for the gnats and small insects which might be entangled; but in a nest which I now have, the base is formed of a few dried male aments of the oak, and which, with the

adjoining felt-like matting of pappus, is agglutinated and bound around the twig with a thick layer of spider's web. The eggs, as usual, are two, white and elliptical. The note resembles that of the Rufous Humming Bird, and is a slender *chep*, frequently repeated; but during the breeding season they are very pugnacious, and the little combatants dart through the trees like meteors, uttering a loud and repeated twittering scold. It has the same habit also that has been remarked in the Rufous Humming Bird, that of ascending in clear weather to a considerable height in the air, and then descending with great rapidity, uttering at the same time a peculiar note. Its ruff too, like that of *rufus*, is erectile.

"Nuttall, who brought this species from California, did not procure the male, but saw it frequently, and supposed it to have a yellow spot on the crown. I discovered that that which deceived him in this respect was the glutinous pollen of a tubular flower upon which it feeds, adhering to the rigid feathers of the crown, and making it look as if it really had a yellow head. I have also seen the bill for half its length covered in the same manner."

The sexes differ very considerably in colour, the female being destitute of the fine metallic hues which adorn the head and throat of the male.

The male has the head, ear-coverts, throat, and the elongated ruff-like feathers on the sides of the neck, brilliant metallic crimson; all the upper surface and wing-coverts golden green; wings purplish brown; central tail-feathers bronzy green, the remainder dark brown with paler internal edges; breast and centre of the abdomen grey; flanks golden green; vent and thighs white; under tail-coverts dull green, edged with grey; bill black; feet blackish brown.

The female has the head greyish brown; all the upper surface, wing-coverts, and central tail-feathers, golden green; basal portion of the lateral tail-feathers grey, succeeded by golden green; their apical portion being black, and the two outer ones on each side tipped with white; wings purplish brown; under surface grey, washed with green on the sides of the neck and flanks, and with a few brilliant fiery-red feathers in the centre of the throat.

The Plate represents two males and a female of the natural size. The plant is the *Ceanothus floribundus*.

CALYPTE HELENÆ.

J Gould and H C Richter, del et lith

Hullmandel & Walton, Imp

CALYPTE HELENÆ.

Helena's Calypte.

Orthorhynchus Helenæ, Lembeye, Aves de l'Isle de Cuba, p. 70. pl. x. fig. 2.
———— *Boothi*, Gundlach, MS.

I HAVE always considered this diminutive but truly beautiful Humming Bird to be one of the gems of my collection, which contains an example of each sex, both of which bear the appearance of being fully adult. The species is a native of the Island of Cuba; and, strange to say, while I can readily obtain examples of many species from the remote forests of the interior of Bolivia and Peru, I have entirely failed in my attempts to procure specimens of the present bird from an island comparatively near to us, and the natural productions of which are so much better known. Besides the two examples possessed by myself, I believe that another has been sent to Bremen by Dr. Gundlach, for I find among my papers a drawing of the male, kindly sent to me a few years since by Dr. Hartlaub: in this drawing the tail-feathers are narrowly tipped with black,—a character I do not find in my birds; but as the latter are slightly imperfect, it is just possible my illustration may not be quite correct in this point; at the same time I would remark, that the black mark above mentioned may be nothing more than the deep shade which appears at the tip of the tail-feathers when the bird is viewed in one position.

For the first discovery of this little gem we are certainly indebted to Señor Don Juan Gundlach, Professor of Philosophy at Cardeños in the island of Cuba, who in his MSS. assigned to it the specific name of *Boothi*, which name he would wish to be retained,—the term *Helenæ*, by which it is known to ornithologists from the figure and description in Lembeye's "Aves de l'Isle de Cuba," having been previously given to another member of the family; as, however, the two *Helenas* belong to two very distinct genera, I have considered it best to follow all previous writers and keep the name assigned to it by Lembeye, that being the one first published.

All that we know of the habits and economy of this little *rara avis minutissima* of the Island of Cuba is contained in the following passage, literally translated from the work of Lembeye above referred to:—

"I have had the pleasure of seeing and killing this bird, in the company of Dr. Gundlach, who, on our return from this agreeable expedition, related to me the observations he had made about it. The *Zunzuncito*, he says, unites to its beauty a varied song—well-sustained, and rather powerful considering its diminutive body—somewhat resembling that of the Cabrero (*Spindalis pretrii*). It enjoys this faculty before it attains the brilliant plumage of the adult. Its flight resembles that of the Colibri (*Trochilus colubris*), and as both these species have a very short tail, they cannot execute such rapid evolutions as the *T. Riccordi*. Sometimes I have seen them fight, rising perpendicularly to a considerable height, and then returning to the point of departure to commence their song anew. They may be distinguished when they fly by the complete silence they keep—only the monotonous humming of their wings being heard; while the *Riccordi*, under the same circumstances, emits a shrill cry, and the *colubris* a sweet and weak voice resembling the syllables *cric cric*."

I cannot close this paper without recording, as I do with much pleasure, my obligations to Frederick Taylor, Esq., of Liverpool, who, with the greatest liberality, presented to me the only two examples of this species I have yet seen: I consider myself the more indebted to this gentleman, as although himself a collector of the Trochilidæ, he most readily parted with them to still further enrich a collection finer than his own.

The male has the head, ear-coverts, throat, and pendent plumes on the sides of the neck, of the richest metallic crimson; all the upper surface and wing-coverts greenish blue; wings purplish brown; under surface white, with the exception of the flanks, which are greenish blue; tail deep rich greenish blue, becoming darker at the tip.

The female has the head, upper part of the back and wing-coverts green; lower part of the back bluish green; wings purplish brown; central tail-feathers dark blue, the lateral feathers blue at the base, then deep black and tipped with white; under surface white, except the flanks which are washed with green.

The Plate represents the two sexes of the natural size. The plant is the *Ceanothus Lobbianus*.

SELASPHORUS RUFUS.

del et lith

SELASPHORUS RUFUS.

Rufous Flame-bearer.

Trochilus rufus, Gmel. Edit. Linn. Syst. Nat., vol. i. p. 497.—Jard. Nat. Lib. Humming-Birds, vol. ii. p. 71. pl. 2.—Aud. Birds of Am., vol. iv. pl. 379.—Ib. Orn. Bio., vol. iv. p. 555.

——— *collaris*, Lath. Ind. Orn., vol. i. p. 318.—Vieill. Hist. Nat. des Ois. de l'Am. Sept., tom. ii. p. 75.

——— *Sitkensis*, Rathke.

Le Sasin, Aud. et Vieill. Ois. dor., tom. i. p. 110. pls. 61, 62.

Ornismya Sasin, Less. Hist. Nat. des Ois. Mou., p. 190. pls. 66, 67.—Id. Supp., p. 121. pl. 11. p. 123. pl. 12. p. 124. pl. 13.—Id. Less. Troch., p. 117. pl. 43.

Ruff-necked Humming-Bird, Lath. Gen. Syn., vol. ii. p. 785. pl. 35.—Id. Supp., p. 135.—Shaw, Gen. Zool., vol. viii. p. 343.—Lath. Gen. Hist., vol. iv. p. 350. pl. 78.

Ruff-necked Honey-sucker, Penn. Arct. Zool., vol. ii. p. 177.

Trochilus (*Selasphorus*) *rufus*, Swains. and Rich. Faun. Bor. Am., vol. ii. p. 324.

Trochilus ruber, Brandt, Icon. Av. Ross., tab. 1, 2.

Selasphorus rufus, Aud. Syn. Birds of Am., p. 171.

Mellisuga rubra, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga*, sp. 60.

Selosphorus ruber, Bonap. Consp. Gen. Av., p. 82, *Selosphorus*, sp. 1.

Calliphlox rufa, Gambel in Proc. of Acad. Sci. Philad., Oct. 1846, p. 111.

Elegant in all its proportions, refulgent in the colouring of its throat, associated with the past as one of the many interesting discoveries of our celebrated Navigator Captain Cook, and remarkable for resorting to extremely high latitudes for the purpose of breeding, this little Humming-Bird has claims to our notice exceeding those of most of its congeners; it is interesting too, on account of the vast extent of country over which it is spread, its range extending over Mexico and North America, but being, however, exclusively confined to the Western or Pacific side of that great Continent, where it represents the well-known *Trochilus colubris*, the range of which appears to be as exclusively confined to the Western or Atlantic portion. The great country of Mexico may be considered as its proper habitat during the months of winter. I have frequently received it from Guatemala, and from this its most southern limit, it is very abundant along the great chain northwards, through California and the Rocky Mountains to Sitka, and perhaps in some seasons to within the Russian territory. Captain Cook found it in abundance at Nootka Sound, and every traveller who has visited the mouth of the River Columbia, speak of it as an object the beauty of which never failed to arrest his attention while inhabiting those regions. After the summer is over and gone, and the powerful rays of the sun are deflected towards the more southern parts of the Continent, it retraces its steps towards the congenial climate of Mexico, where insect life is at this season still sufficient for its wants; this little wanderer, therefore, unlike many other species, which appear to be stationary, passes over a vast range of country, and is strictly a migrator; and, as is generally the case with birds having this habit, it is only in certain seasons that it bears the fine flame-coloured gorget as figured in the accompanying Plate. The period when this part is most radiant is that immediately preceding the pairing or breeding season, and in no instance have I found specimens collected in Mexico at all equal in beauty to those obtained in more northern climes. Exposure to light, the rapidity of flight, the process of constructing their nest, and the frequent combats in which these little furies are engaged, all doubtless tend to diminish the beauty and purity of their plumage; perfect specimens, therefore, can only be obtained during their spring passage, or immediately after their arrival at their summer residence.

This species, more fortunate than most of its family, has had some interesting accounts of its habits and economy recorded by various writers, which, in the absence of any opportunities for observing them myself, I cannot perhaps do better than transcribe in their own words, as given in Audubon's 'Ornithological Biography,' &c.

"We began," says Mr. Nuttall, "to meet with this species near the Blue Mountains of the Columbia River, in the autumn, as we proceeded to the west. These were all young birds, and were not very easily distinguished from those of the common species of the same age. We now for the first time (April 16) saw the males in numbers, darting, burring and squeaking in the usual manner of their tribe; but when engaged in collecting its accustomed sweets in all the energy of life, it seemed like a breathing gem, or

magic carbuncle of glowing fire, stretching out its gorgeous ruff, as if to emulate the sun itself in splendour. Towards the close of May the females were sitting, at which time the males were uncommonly quarrelsome and vigilant, darting out at me as I approached the tree, probably near the nest, looking like an angry coal of brilliant fire, passing within very little of my face, returning several times to the attack, sinking and darting with the utmost velocity, at the same time uttering a curious reverberating sharp bleat, somewhat similar to the quivering twang of a dead twig, yet also so much like the real bleat of some small quadruped, that for some time I searched the ground instead of the air, for the actor in the scene. At other times the males were seen darting up high in the air, and whirling about each other in great anger and with much velocity. After these manœuvres the aggressor returned to the same dead twig, where for days he regularly took his station, displaying the utmost courage and angry vigilance. The angry hissing or bleating note seems something like *wht' t' t' t' t' sh vee*, tremulously uttered as it whirls and sweeps through the air, like a musket-ball, accompanied also by something like the whirr of the Night Hawk. On the 29th of May I found a nest in a forked branch of the Nootka Bramble, *Rubus nutkanus*. The female was sitting on two eggs of the same shape and colour as those of the common species, *T. colubris*. The next also was perfectly similar, but somewhat deeper. As I approached, the female came hovering round the nest, and soon after, when all was still, she resumed her place contentedly."

Dr. Townsend's note is as follows:—"Nootka Sound Humming-Bird, *Trochilus rufus*, *Ah-puets-Rinne*, of the Chinnooks. On a clear day the male may be seen to rise to a great height in the air, and descend instantly near the earth, then mount again to the same altitude as at first, performing in the evolution the half of a large circle. During the descent it emits a strange and astonishingly loud note, which can be compared to nothing but the rubbing together of the limbs of trees during a high wind. I heard this singular note repeatedly last spring and summer, but did not then discover to what it belonged. I did not suppose it to be a bird at all, and least of all a Humming-Bird. The observer thinks it almost impossible that so small a creature can be capable of producing so much sound. I have never observed this habit upon a dull or cloudy day."

"The nest," says Audubon, "which measures two inches and a quarter in height, and an inch and three quarters in breadth at the upper part, is composed externally of mosses, lichens, and a few feathers, with slender fibrous roots interwoven, and lined with fine cottony seed-down."

By many writers the Little Brown Humming-Bird of Edwards (*Trochilus ruber* of Linnæus) has been considered identical with the present bird, but I am at a loss to conceive how such an error could have arisen, since on examining Edwards's figure it will at once be seen that it represents a bird of a totally different form, probably a *Phaëthornis*, but what species it is almost impossible to determine.

The adult male has the head brown; all the upper surface and the tail, the feathers of which are of a broad lanceolate form, cinnamon-brown, with a mark of dark brown down the tip of each of the tail-feathers; wings purple-brown; wing-coverts bronzy brown; throat luminous orange-red; breast white, tinged with red; under surface cinnamon-brown, inclining to white on the centre of the abdomen; bill brownish black; feet brown.

The above is the usual colouring, but I have occasionally seen fully adult males with the rich gorget, in which the colouring of the back was totally different, being of a golden green, and presenting so great a contrast as almost to induce a belief that they were of a different species.

The female has the upper surface golden green, the head brownish; the upper tail-coverts and the base of the tail-feathers rufous, the remaining portion of the tail-feathers being brownish black tipped with white; under surface white, tinged with rufous on the sides and under tail-coverts, the throat having a roundish spot of fiery metallic red near the tip of most of the feathers; the female also differs in having the tail-feathers short and rounded at the tip instead of the broad and lanceolate form of those of the male.

The Plate represents three males and a female on the *Gynoxys fragrans*; all of the natural size.

SELASPHORUS SCINTILLA.

J. Gould & H.C. Richter del. et lith.

SELASPHORUS SCINTILLA, *Gould.*

Little Flame-bearer.

Trochilus (*Selasphorus*) *scintilla*, Gould in Proc. of Zool. Soc., 1850, p. 162.

This very lovely little species, to which I have given the specific name of *scintilla*, at first sight suggests the idea that it is merely a miniature representative of the *Selasphorus rufus*; on inspection, however, it will be found to differ not only in size, but in many other particulars, especially in the form and markings of the tail, the general contour of which is less rounded, each feather less acutely pointed; and the outer webs of the lateral ones and the centres of the remainder broadly streaked, instead of being merely striated, with black near the point; the upper surface too of all the specimens I have examined is golden-green, without a trace of the buff colour so conspicuous in *S. rufus*.

For the first discovery of this little Flame-bearer, science is indebted to that intrepid traveller and indefatigable explorer M. Warszewiez, who states that it frequents the inner sides of the extinct volcano of Chiriqui in Veragua, at an altitude of 9000 feet, and I believe it has not as yet been found in any other locality. It is not a little singular, that several Humming-Birds, the specific value of which cannot for a moment be questioned, should inhabit the craters of extinct volcanoes, where also are to be found corresponding peculiarities in the vegetation and in insect life: it required but little poetic imagination to suggest an appropriate name for this little gem of the mountains; a living spark, as it were, of the fires which in bygone ages illumined the district it inhabits.

The male has the upper surface bronzy green; on the throat a gorget of glittering fiery red, the feathers of which are much produced on either side; beneath the gorget a band of buffy white; wings purple-brown; central tail-feathers brownish black, margined with rusty red; lateral tail-feathers brownish black on the outer, and rusty red on their inner webs; under surface reddish brown; bill black.

The upper surface of the female is similar to, but not so brilliant as, that of the male; under surface white; the throat-feathers are less produced, and spotted with brown on a white ground; the flanks are buff; the tail rufous, crossed by a crescentic bar of black near the tip, with a line of bronzy green down the centre of the middle feathers, a small line of the same hue bounding anteriorly the black band on the lateral feathers.

The Plate represents two males and a female on the *Wigandia Caracasana*, of the natural size.

SELASPHORUS FLORESII.

J.Gould and H.C.Richter, del et lith

Walter & Cohn, Imp

SELASPHORUS FLORESII.

Floresi's Flamebearer.

Trochilus floresii, Lodd. MSS.

One of the very finest birds in the Loddigesian Collection was presented to the late Mr. George Loddiges by Mr. Floresi. The specimen is in the best state of preservation; and the bird must have been killed immediately after its moulting had been completed, when its plumage was in its greatest beauty. It would, indeed, be most difficult, if not impossible, to represent the colour of the head and throat by any artistic means at our command. In brilliancy it fully equals that of the freshly moulted males of *Selasphorus rufus*, but differs from that and all the other known species of the genus in having the entire crown, as well as the gorget, of the brightest flame colour. In the form and colouring of its tail it is a true *Selasphorus*, while the disposition of the colours of the body allies it to *Calypte*.

I have been kindly permitted by Miss Loddiges to take a drawing of the bird; and that lady has also placed in my hands the following note made by her father in reference to this species:—

"August 11, 1845. Mr. Floresi sent me a most beautiful new Humming-Bird, which I call *Floresii*. It is from Bolanos, and is nearly allied to *Anna*, but is much more brightly coloured; viewed in front, it is nearly scarlet; the sides of the collar are ruby-colour or crimson; the head is bright ruby-colour; and the tail is something like that of *platycercus*, but has brown inner webs. Mr. Floresi says it is the only one he has ever seen."

Crown and throat beautiful scarlet, with violet reflexions, the violet hue predominating on the crown and the tips of the gorget; breast and centre of the abdomen greyish white; upper surface of the body and upper tail-coverts bronzy green; flanks similar but paler; two centre tail-feathers green with purple reflexions; outer webs of the lateral tail-feathers purple, inner webs deep reddish buff; wings purplish brown; bill black.

The figures are of the natural size. The plant is the *Echinocactus Visnaga*.

SELASPHORUS PLATYCERCUS.

J. Gould & H. C. Richter del. et lith.

SELASPHORUS PLATYCERCUS.

Broad-tailed Flame-bearer.

Trochilus platycercus, Swains. in Ann. Phil., 1827, p. 441.
Ornismya tricolor, Less. Hist. Nat. des Ois. Mou. Supp., p. 125. pl. 14.—Ib. Les Troch., p. 156. pl. 60.—Jard. Nat. Lib. Humming-Birds, vol. ii. p. 77. pl. 13.
——— *montana*, Less. Les Troch., p. 161. pl. 63, p. 163. pl. 64.
Mellisuga platycerca, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga*, sp. 78.
Selasphorus platycercus, Bonap. Consp. Gen. Av., p. 82, *Selasphorus*, sp. 3.

In its structure, particularly in the form of its tail, this species closely assimilates to *Selasphorus rufus* and *S. scintilla*; like those birds too, it is an inhabitant of Mexico, and not of Brazil, as stated by Lesson; it far exceeds both its congeners in size, but is much less brilliant in colour, the gorget being purplish red instead of fine orange-scarlet. The thick and dense character of its plumage induces me to believe that the temperate and colder regions of the country constitute its principal habitat; and in confirmation of this view I may state, that all the specimens I have seen had been collected on the great plateau to the westward of the City of Mexico; from this comparatively northern latitude to the more southern regions of Guatemala (whence I have also seen specimens), it is in all probability very generally distributed. In Mr. John Taylor's collection of Mexican birds, are several specimens which had been procured near the Real del Monte Mines, and a beautiful specimen presented to me by the Director of the Museum at Bâsle was from the same district. Slight differences occur in the colouring of the gorget, some approaching a bright geranium red, while in others it is of a purplish hue or less inclined to scarlet. In all probability it will be found that this species migrates during the summer months to California, but at present I have no positive evidence that such is the case.

The usual difference occurs in the colouring of the sexes.

The male has the head, upper surface, wing-coverts, two central tail-feathers and the flanks bronzy green, tinged with brown on the head; wings purplish brown; lateral tail-feathers dark brown, with paler shafts and margined basally, particularly on their inner webs, with rufous; immediately behind the eye a minute mark of white; throat glittering amethystine red; across the breast a broad crescent of dull buffy white; centre of the abdomen pale grey; under tail-coverts brownish grey with darker centres; bill blackish brown; feet brown.

The female has the upper surface of the same colour, and the white mark behind the eye as in the male; the throat and under surface white, marked with buff on the under wing-coverts and flanks, and with a spot of brown near the tip of each of the throat-feathers; two central tail-feathers bronzy green; the next on each side bronzy green margined externally with rufous, and largely tipped with dull black; the lateral feathers on each side are rufous at the base, and dull black for the remainder of their length, except at their tips, which are white; bill and feet as in the male.

The figures represent two males and a female on the *Aristolochia macradenia*, of the natural size.

SELASPHORUS ? HELOISA.

J.Gould and H.C.Richter del et lith

Hullmandel & Walton, Imp

SELASPHORUS? HELOISÆ.

Heloisa's Flame-bearer.

Ornysmia Heloisa, Less. et De Latt. Rev. Zool. 1839, p. 15.
Mellisuga Heloisa, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga*, sp. 62.
Tryphæna heloisa, Bonap. Consp. Troch. in Rev. et Mag. de Zool. 1854, p. 257.

This beautiful species is so directly intermediate, both in form and colouring, between the members of the genera *Calothorax* and *Selasphorus*, that it is extremely difficult to determine with which of them it should be placed; in its size and in its glittering gorget it offers a close affinity to the former, and in the form of its tail to the latter; under these circumstances, some naturalists would make it the type of a new genus, and should other species possessing similar characters be discovered, it may be necessary so to do, but for the present I content myself with placing it in the genus *Selasphorus*, with a mark of doubt as to that being its proper place.

The *Selasphorus? Heloisæ* is a native of the temperate regions of Mexico. M. De Lattre, to whom we are indebted for its discovery, states that the examples he procured were found between Jalapa and Quatepu; that the male rises very early, does not search for food after nine o'clock in the morning, seldom leaves the female and young, and confines himself to the forests, but does not disdain field flowers.

The sexes differ considerably in their plumage, the male alone being adorned with a rich gorget.

I am indebted to the late M. Damiano Floresi d'Areais for fine examples of this bird collected during his last sojourn in Mexico.

The male has the head, wing-coverts and upper surface rich golden green; wings purplish brown; central tail-feathers greenish bronze, the remainder cinnamon-red at the base, to which succeeds a large oblique mark of black, and a nearly round spot of white at the tip; throat glittering lilaceous red, the feathers short and scale-like in the centre, but lengthening on each side into prominent tufts; below this a band of greyish white terminating in a point on each side of the neck; flanks deep buff; centre of the abdomen and under tail-coverts buffy white.

The female is very similar to the male, but in lieu of the rich gorget has the throat spotted with brown on a white ground.

The figures represent both sexes of the natural size, on a Mexican orchid.

CALOTHORAX CALLIOPE, *Gould.*

J.Gould and H.C.Richter, del. & lith.

Hullmandel & Walton, Imp.

CALOTHORAX CALLIOPE, *Gould.*

Mexican Satellite.

Trochilus (*Calothorax*) *Calliope*, Gould in Proc. of Zool. Soc., part xv. p. 11.
Calothorax Calliope, Gray and Mitch. Gen. of Birds, vol. i. p. 110, *Calothorax*, sp. 11.—Bonap. Consp. Gen. Av., p. 85, *Calothorax*, sp. 2.—Reich. Aufz. der Col., p. 13.—Bonap. Rev. et Mag. de Zool. 1854, p. 257.

For the discovery of this elegant little *Calothorax*, science is indebted to the late Signor Damiano Floresi d'Areais, a gentleman endowed with so many amiable qualities, that while his friends dwell with pleasure upon the recollections of the gratification they derived from his society, they as deeply and mournfully regret his premature decease from fever immediately on landing in the pestilential country of Panama. The name of Floresi will also always be held in high regard among Trochilidists for the fine collections of Humming-Birds obtained by him during his lengthened sojourn on the table-lands of Mexico, and from the circumstance of several of the species he procured being new to science; the little Satellite figured on the accompanying Plate is one of them. Of the history of this species, nothing more, I regret to say, is known than that it was procured in the neighbourbood of the Real del Monte mines, and that it occasionally and very sparingly visited that region, probably during its migrations from some more distant locality: had it been a stationary species in that part of the country, the vigilance displayed by Signor Floresi in the pursuit of this group of birds would have led to the capture of a larger number of specimens; but this not being the case, it continues so rare, that I know of not more than two or three collections besides my own which contain examples. Its diminutive size, short and square-formed tail, and the delicate colouring of its starry throat, render it conspicuously different from every other species. The female bears a general resemblance to the female of *Selasphorus*? *Heloisa*, but differs in the colouring of the base of the outer tail-feathers, which are grey instead of reddish-buff; the entire tail too is shorter, and assumes much of the square form of that of the male sex.

The male has the upper surface bronzy-green; wings and tail greyish-brown; feathers of the throat elongated, narrow, and of a rich pinky-scarlet, with white bases arranged in a starred form; breast, centre of the abdomen and under tail-coverts white; flanks light bronzy-green; bill and feet blackish-brown.

The female has the upper surface golden-bronze; wings greyish-brown; tail-feathers greenish-grey at the base, the remainder black, with the exception of the two outer feathers on each side, which are tipped with white; under surface buffy-white, very minutely speckled with brown on the throat, and stained with buff on the abdomen and under tail-coverts.

The Plate represents a male and a female of the size of life. The plant is *Gilia dianthoides*.

CALOTHORAX CYANOPOGON.

J. Gould and H.C. Richter, del. & lith.

Hullmandel & Walton Imp.

CALOTHORAX CYANOPOGON.

Mexican Star.

Cynanthus Lucifer, Swains. in Phil. Mag. 1827, p. 442?
Ornismya cyanopogon, Less. Hist. Nat. des Ois. Mou., p. 50. pl. 5.—Ib. Supp. à l'Hist. Nat. des Ois. Mou., pp. 117, 119. pls. 9, 10.—Ib. Traité d'Orn., p. 274.—Ib. Ind. Gen. et Syn. des Ois. du Gen. *Trochilus*, p. xxiii.
Calothorax lucifer, Gray and Mitch. Gen. of Birds, vol. i. p. 110, *Calothorax*, sp. 10.—Bonap. Consp. Gen. Av., p. 85, *Calothorax*, sp. 1.
Trochilus cyanopogon, Jard. Nat. Lib. Humming-Birds, vol. ii. pl. 14.
——— *lucifer*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 79.
Lucifer cyanopogon, Reich. Aufz. der Col., p. 13.—Bonap. Rev. et Mag. de Zool. 1854, p. 257.
Trochilus simplex, Less. Traité d'Orn., p. 291?—Ib. Hist. Nat. des Col., p. 86. pl. 23?

This beautiful species, so well known by its trivial name of "Mexican Star," is a denizen of the table-lands of that rich country Xalapa, the land of perpetual spring and of an unsurpassed climate. It was in this fine region that the bird came under the observation of the late Mr. Bullock, to whom we are indebted for all that is known respecting it, and which is comprised in the following extracts from his "Six Months in Mexico":—

"The house I resided in at Xalapa for several weeks was only one story high, enclosing, like most of the Spanish houses, a small garden in the centre, the roof projecting six or seven feet from the walls, covering a walk all round, and leaving a small space only between the tiles and the trees which grew in the centre. From the edges of these tiles to the branches of the trees in the garden, the spiders had spread their innumerable webs so closely and compactly that they resembled a net. I have frequently watched, with much amusement, the cautious peregrination of the Humming-Bird, who, advancing beneath the web, entered the various labyrinths and cells in search of entangled flies; but as the larger spiders did not tamely surrender their booty, the invader was often compelled to retreat: being within a few feet, I could observe all their evolutions with great precision. The active little bird generally passed once or twice round the court, as if to reconnoitre his ground, and commenced his attack by going carefully under the nets of the wily insect, and seizing by surprise the smallest entangled flies, or those that were most feeble. In ascending the angular traps of the spider, great care and skill was required; sometimes he had scarcely room for his little wings to perform their office, and the least deviation would have entangled him in the complex machinery of the web, and involved him in ruin. It was only the works of the smaller spider that he durst attack, as the larger sort rose to the defence of their citadels, when the besieger would shoot off like a sunbeam, and could only be traced by the luminous glow of his refulgent colours. The bird generally spent about ten minutes in this predatory excursion, and then alighted on a branch of the Avocata to rest and refresh himself, placing his crimson star-like breast to the sun, which then presented all the glowing fire of the ruby, and surpassed in lustre the diadem of monarchs. Europeans who have seen only the stuffed remains of these little feathered gems in museums have been charmed with their beautiful appearance; but those who have examined them whilst living, displaying their moving crests, throats and tails, like the Peacock, in the sun, can never look with pleasure on their mutilated forms. I have carefully preserved about two hundred specimens, in the best possible manner, yet they are still but the shadow of what they were in real life. The reason is obvious; for the sides of the laminæ, or fibres of each feather, being of a different colour from the surface, will change when seen in a front or oblique direction; and as each lamina or fibre turns upon the axis of the quill, the least motion, when living, causes the feathers to change suddenly to the most opposite hues. Thus the one from Nootka Sound changes its expanded throat from the most vivid fire-colour to light green; the Topaz-throated does the same, and the Mexican Star changes from bright crimson to blue.

"The sexes vary greatly in their plumage, so much so that the male and female could not have been known had they not been seen constantly together, and proved to be so by dissection. They breed in Mexico in June and July; and the nest is a beautiful specimen of the architectural talent of these birds: it is neatly constructed with cotton or the down of thistles, to which is fastened on the outside, by some glutinous substance, a white, flat lichen resembling ours.

"The female lays two eggs, perfectly white, and large for the size of the bird; and the Indians informed me they were hatched in three weeks by the male and female sitting alternately. When attending their young, they attack any bird indiscriminately that approaches the nest. Their motions when under the influence of anger or fear are very violent, and their flight rapid as an arrow—the eye cannot follow them;

but the shrill piercing shriek which they utter on the wing may be heard when the bird is invisible. They attack the eyes of the larger birds, and their sharp needle-like bill is a truly formidable weapon in this kind of warfare. Nothing can exceed their fierceness when one of their own species invades their territory during the breeding season. Under the influence of jealousy they become perfect furies; their throats swell, their crests, tails and wings expand; they fight in the air (uttering a shrill noise) till one falls exhausted to the ground. I witnessed a combat of this kind near Otumba, during a heavy fall of rain, every separate drop of which I supposed sufficient to have beaten the puny warriors to the earth.

"In sleeping they frequently suspend themselves by the feet, with their heads downwards, in the manner of some Parrots.

"These birds were great favourites of the ancient Mexicans. They used the feathers as ornaments for their superb mantles in the time of Montezuma, and in embroidering the pictures so much extolled by Cortez. Their name signifies in the Indian language 'beams or locks of the sun': and their feathers are still worn by the Indian ladies as ornaments for the ears."

I have numerous specimens of this bird in my collection, and observe that those procured in one locality differ somewhat from those obtained in another; for instance, the examples collected by my friend Floresi in the neighbourhood of the Real del Monte Mines are larger and altogether more powerful birds than those brought to this country by M. Sallé and other collectors from Cordova. Bullock speaks with great truth when he states that the sexes differ considerably, for it is only those persons who are conversant with this extensive group as a whole, who can, with any degree of certainty, pair many of the species.

I have not yet seen this species from Guatemala; neither has it, so far as my knowledge extends, been procured in Texas; consequently Mexico Proper must be considered its restricted habitat.

It is just possible that this bird may be the *Cynanthus Lucifer* of Swainson, in which case his name ought to have the priority, but from the curtness of his description it is very difficult to decide this point; it is certainly the bird figured by Lesson under the name of *cyanopogon*; I have therefore adopted that appellation, which, moreover, has the advantage of being appropriate, while the other is not.

The male has the head, upper surface, wing- and tail-coverts bronzy-green; wings purple-brown; tail darker purple-brown; chin, chest, and elongated feathers on the sides of the neck changeable deep metallic purple; breast buffy-white; flanks and centre of the abdomen bronzy-green; vent and under tail-coverts white; bill and feet blackish-brown.

The female has the head and upper surface bronzy-green; wings pale purplish-brown; four central tail-feathers dark bronzy-green; the lateral feathers sandy-buff at the base, then black, and tipped with white; under surface white, stained with buff, particularly on the flanks and under tail-coverts.

The Plate represents two males and a female, of the natural size. The plant is the *Beschorneria tubiflora*.

CALOTHORAX PULCHRA, *Gould.*

J Gould and H C Richter del et lith *Hullmandel & Walton imp*

CALOTHORAX PULCHRA, *Gould.*

Beautiful Wood Star.

Calothorax pulchra, Gould in Ann. and Mag. of Nat. Hist., 3rd ser. vol. iv. p. 97.—Sclat. in Proc. of Zool. Soc., part xxvii. p. 386.

At a first glance this species might be easily mistaken for the bird known to English collectors as the "Mexican Star," and to the French as "Barbe-bleue,"—*Calothorax cyanopogon*. On a careful comparison, however, it will readily be seen that it is a very distinct species, inasmuch as it will be found to be much smaller in size, to have the thoracic patch much less prolonged on the sides, a shorter bill, and the outer tail-feathers of uniform breadth from the base to the tip, while in the Mexican Star these feathers are nearly filiform, and terminate in a sharp point. This is not so clearly shown in my figure of *C. cyanopogon* as I could wish, but the pointed form of its tail-feathers is very well depicted in the fifth plate of Lesson's 'Histoire Naturelle des Oiseaux-Mouches.'

The native country of the Mexican Star is Xalapa and the high table-lands which surround and extend northward beyond the city of Mexico, while all the specimens I have ever seen of the present bird—*C. pulchra*—are from Oaxaca, a country much farther to the southward and westward.

For the knowledge of the existence of this fine bird we are indebted to M. Sallé of Paris, a gentleman who has travelled much, and collected with a zeal which entitles him to the thanks of every scientific man; and as the health and energies of M. Sallé are still unimpaired, we may hope that his peregrinations are not yet terminated, and that he may be the means of making us acquainted with many of the interesting products of the New World which have yet to be brought to light.

As is usual with the other species of the genus *Calothorax*, the female of the *C. pulchra* differs very considerably in colouring from her mate, not having a trace of the brilliant hues which adorn the male.

The male has a gorget of fine deep metallic lilaceous purple on the throat; the head, upper surface, wing-coverts and flanks green; wings purplish brown; tail brownish black; breast and centre of the abdomen white; bill black; feet dark brown.

The female has the head dull greyish brown; upper surface bronzy green; throat and under surface buff; wings purplish brown; the centre tail-feathers green; the next on each side green, tipped with black; the remainder rusty red at the base and white at the tip, the intervening space being black.

The Plate represents two males and a female of the natural size. The plant is the *Echinocactus myriostigma*.

CALOTHORAX MULSANTI.

Mulsant's Wood Star.

Ornismya Mulsanti, Bourc. Ann. Sci. Phys. &c. de Lyon, tom. v. 1842, p. 342. tab. xx.
Mellisuga Mulsanti, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga,* sp. 63.
Calothorax Mulsanti, Bonap. Consp. Gen. Av., p. 85.

The paucity of web on the outer tail-feathers, which forms so striking a peculiarity in the members of the genus *Calothorax*, being carried in this species to its maximum, it is rendered conspicuously distinct from the whole of its congeners. Although it is one of the more recently discovered of the *Trochilidæ*, it is now very common in all collections, but at the same time is rarely seen in the very perfect state represented in the accompanying Plate from specimens in my possession. As far as my own knowledge of its habitat extends, I believe it to be confined to the temperate regions of Columbia; M. Bourcier states that it is also found in the Yungas of Bolivia, but I apprehend he must have been misinformed on this point, for I have never yet seen examples from that country, and do not think it likely that it will be found there. The greater portion of the collections sent from Sta Fé de Bogota comprise numerous examples of this species in one or other of its various states of plumage; which indeed are so varied as to prove that much remains yet to be learnt respecting the changes which this bird and its allies undergo from youth to maturity.

M. Bourcier, the original describer of the species, states that he has named it *Mulsanti*, in honour of his friend M. Mulsant, so well known for his many excellent works on Entomology.

The male has the head, upper surface, wing-coverts and flanks dark shining green; wings purple-brown; tail purplish black; chin, line below the eye, under surface, and a tuft behind the insertion of the thigh white; on the throat a large inverted heart-shaped mark of rich lustrous violet-red; bill and feet black.

The female has the upper surface and wings similar to those of the male; the tail sandy buff, crossed about the centre by a broad band of deep black; throat and chest white, with a patch of dark olive-green on the sides of the neck; upper part of the flanks shining green; lower part of the flanks and under tail-coverts reddish buff; tufts above and behind the insertion of the thigh white; feathers of the thigh brown.

I have figured this beautiful bird on one of the commonest plants of the country it inhabits, the *Brugmansia arborea*, the flowers of which it doubtless explores during its erratic wanderings in search of its insect and saccharine food; but the flowers of the various species of *Mimosa* appear to be those which it principally frequents.

The figures are of the natural size.

CALOTHORAX DECORATUS, *Gould.*

J Gould and H.C Richter; del et lith

Walter & Cohn, Imp.

CALOTHORAX DECORATUS, *Gould.*

Decorated Wood-star.

Calothorax decoratus, Gould in Proc. of Zool. Soc., part xxviii. p. 309.

My collection is graced with a very fine example of this bird, but by whom it was collected and whence it came are quite unknown to me. In size it is directly intermediate between *C. Mulsanti* and *C. Heliodori*; although a larger bird than the latter, the feathers of the throat are less prolonged on the sides. It would be difficult to say to which of the two species above mentioned it is most nearly allied; and it is a bird which might be easily overlooked in collections from New Grenada, which will most probably prove to be its proper habitat. Of its specific value I have no doubt. I have a specimen taken out of spirits and given to me by Mr. Linden, which I think will prove to belong to this species; if so, the bird is from Antioquia.

The following description and remarks were published in the 'Proceedings of the Zoological Society' for 1860, and, as I have nothing to add thereto, they are reprinted here :—

"This species might easily be mistaken for *Calothorax Heliodori*; but although closely allied to that bird, it differs from it in several particulars—in being much larger, in having the frill in front of the throat not so prolonged at the sides (in which respect it more nearly resembles *C. Mulsanti*), the two centre tail-feathers finer or more spiny, and the bill much longer. These comparisons have been made with fine specimens in my collection of all three species.

"Crown of the head, all the upper surface, and flanks deep grass-green; throat and sides of the neck very lovely shining lilac; chest grey; wings and tail purplish brown; bill black.

"Total length 3 inches; bill $\frac{3}{4}$; wing $1\frac{3}{8}$; tail $\frac{1}{8}$."

The figures are of the size of life. The plant is the *Agave maculosa.*

J. Gould and H.C. Richter del. et lith.

Hullmandel & Walton Imp.

CALOTHORAX HELIODORI.

Heliodore's Wood Star.

Ornismya Heliodori, Bourc. Rev. Zool. 1840, p. 275.—Ann. Sci. Phys. &c. de Lyon, tom. v. 1842, p. 308, pl. xv. male, xvi. female.

Mellisuga Heliodori, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga*, sp. 66.

Calothorax Heliodori, Bonap. Consp. Gen. Av., p. 85.

There is no Humming Bird with which I am acquainted that has so short and feeble a wing as the *Calothorax Heliodori*, while on the other hand I know of no species of the smaller members of the group having so robust a body and so deep a pectoral muscle; hence we may infer with a degree of certainty, that the deficiency in the size of the wing is compensated by a great increase of muscular force, which enables it to maintain a flight characterized by a vibratory action of inconceivable rapidity. It is somewhat singular that the small size of the wing is much more decided in the adult male than in the female or young male, a circumstance which it is not very easy to account for; there is no doubt that the increased muscular power of the adult male compensates for the shortness of wing, but the laws which regulate muscular development and that of the plumage, and especially of such portions as are necessary to flight, are at present but little understood. Sheltered valleys and moderate elevations of the Cordilleran Andes, where the temperature is congenial, constitute the habitat of this little species. I have received it from Pamplona, from the banks of the Magdalena, and from Sta Fé de Bogota, in which latter district there is every reason to believe it is to be found in considerable abundance, inasmuch as but few collections are sent from that portion of South America which do not contain examples.

All the tail-feathers of the males of this species, like those of *Calothorax Mulsanti*, are slender, but the two external ones on each side are reduced almost to a setaceous filament; on the other hand, the tail-feathers of the female and young male are quite opposite in character, as will be seen on reference to the accompanying Plate, which represents two adult males, a supposed young male, and a female, the latter surmounting a blossom of the *Cereus crenatus*, a beautiful Cactus, lately sent to this country from the district the bird frequents; the fine blossom figured was given to me by Mr. Glendinning of Chiswick Nursery, to whom my thanks are due. It is not to be understood, however, that the bird feeds exclusively on flowers of this character, for M. Bourcier informs me that it frequents the topmost branches of the lofty *Mimosa* trees, from the abundant flowers of which it extracts its insect food. M. Bourcier states that he has named this bird *Heliodori* after his son, in order to create in him a love of science and a taste for natural history.

The male has all the upper surface, flanks and abdomen dark shining green; wings purplish brown; tail brownish black; at the union of the flanks with the upper surface a patch of white; throat and lengthened plumes on the sides of the neck violet-red, beneath which is a transverse line of greyish white; centre of the breast grey; vent and thighs white; bill black.

The female has the upper surface bronzy green; lores and streak behind the eye dark brown; under surface and tail deep reddish buff, the latter crossed near the tip by a band of brownish black; tufts of white on the sides as in the male.

In the immature state the birds I believe to be young males have the under surface in some instances white, in others rufous like that of the female.

The Plate represents two males, a female, and probably a young male of the natural size.

CALOTHORAX MICRURUS, *Gould.*

J Gould and C H Richter del et lith

Hullmandel & Walton Imp

CALOTHORAX MICRURUS, *Gould.*

Short-tailed Wood-Star.

Calothorax micrurus, Gould in Proc. of Zool. Soc., Nov. 22, 1853, reported in Athenæum, Nov. 26, 1853.

The members of the genus *Calothorax* comprise some of the most diminutive of the Humming Birds, and the present species, as will be seen, is pre-eminently small. It differs from all its congeners in its extremely short and almost hidden tail; I might say entirely hidden tail, for the upper and under tail-coverts being longer than the tail itself, it is only when the little creature is on the wing and the tail spread to its fullest extent, that it can be seen. As in some other members of the genus, the feathers of which it is composed are stiff and rigid, especially in the male.

The native country of this little bird is the interior of Peru, whence M. Warszewicz brought me examples of both sexes. All the information he could give me respecting them was, that they were quick fliers and loud hummers, and that they frequented the various species of *Mimosa*.

The *Calothorax micrurus* cannot be confounded with any species at present known, its characters being peculiarly its own.

The male has all the upper surface mealy bronzy green; centre of the throat of a glittering amethystine hue; chin, sides of the throat and under surface buff, deepest on the sides; wings purplish brown; tail black; under tail-coverts white; bill black.

The female has the upper surface similar to that of the male; the under surface buff, with a speck or two of the amethystine hue on the throat; and the lateral tail-feathers tipped with white.

The figures are of the natural size, on a species of *Mimosa* common in Peru.

CALOTHORAX ROSÆ.

J Gould and H C Richter, del et lith.

Hullmandel & Walton imp.

CALOTHORAX ROSÆ.

Crimson-throated Wood-Star.

Trochilus Rosæ, Bourc. et Muls. Ann. de la Soc. Sci. de Lyons, tom. ix. 1846, p. 316.
Mellisuga rosæ, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga*, sp. 64.
Calothorax Rosae, Reich. Aufz. der Col., p. 13.
——— *Rosa*, Bonap. Rev. et Mag. de Zool. 1854, p. 257.

It cannot be said that our friends the French Trochilidists have been wanting in gallantry to the ladies when naming the new species they have acquired of this lovely group of birds, since, as will be seen, no inconsiderable number of them have been assigned appellations in honour of various members of the fairer portion of the community; consequently, complaint cannot be made that lordly man has engrossed all the honours. Thus the name of *Rosæ* has been applied by M. Bourcier, to the beautiful little Humming-bird figured on the accompanying Plate, in honour of Madame Rose Duquaire. Without intending any disrespect to the fair recipients of such honours, I cannot refrain from recording my dissent from this practice of naming species after individuals; it is true that I have done so myself in some few instances where it appeared unavoidable; nevertheless it is certainly one of those modes of complimenting persons which will be more honoured in the breach than in the observance. The bird in question, however, is certainly one of great beauty, and worthy in every respect to be dedicated to the fairest lady. It is a native of the Caraccas, where it appears to be common, the late Mr. Dyson having obtained numerous examples during his visit, and others having been procured by every collector who has explored that country.

Independently of the pure crimson colouring of its throat, which is of a deeper tint than in any other species, its singularly formed tail will constitute a specific character by which it may at all times be distinguished: these feathers, some of which are very short, present a split and ragged appearance, particularly the four longest of them, namely the two next the outer one on each side; the first or outer feather is extremely pointed, and not half the length of the next two, and the four middle ones are so short as to be almost hidden by the coverts. As will be observed on reference to the Plate, the female is totally different from the male both in her colouring and in the form of her tail.

The male has the head, all the upper surface, wing- and tail-coverts, four centre tail-feathers, flanks and abdomen, bronzy-green; wings purple-brown; lateral tail-feathers purplish-brown, with a stripe of sandy-red down the centre of the basal half of the two longer ones; on the chin and throat a gorget of the richest luminous crimson; across the breast a band of greyish-white.

The female has the whole of the upper surface, centre tail-feathers, wing-coverts and flanks golden-green; wings purplish-brown; three outer feathers on each side sandy-buff, crossed obliquely by a broad mark of black; under surface deep buff.

The Plate represents the sexes of the natural size.

CALOTHORAX JOURDANI.

J.Gould and H.C.Richter, del et lith.

Hullmandel & Walton imp.

CALOTHORAX JOURDANI.

Jourdan's Wood-star.

Ornismya Jourdanii, Bourc. Rev. Zool. 1839, p. 295.

——— *Jordani*, Bourc. Ann. Soc. Sci. Phys. et Nat. Lyon, 1840, p. 227. pls. 5, 6.

Mellisuga Jourdani, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga*, sp. 65.

Calothorax jourdani, Bonap. Consp. Gen. Av., p. 85, *Calothorax*, sp. 6.

——— *Jourdani*, Reich. Auf. der Col., p. 13.—Ib. Troch. Enum., p. 10.

Callothorax jourdani, Bonap. Rev. et Mag. de Zool. 1854, p. 257.

Chætocercus Jourdani, Gray, Cat. of Gen. and Sub-Gen. of Birds in Brit. Mus., p. 22, no. 349.

If the *Calothorax Jourdani* and *C. Rosæ* are not one and the same species, they are certainly most nearly allied, the principal, if not the only difference between them being a slight variation in the colouring of their throat-marks, which in the latter is crimson, and in the former deep lilac or puce; in size and form, and in the colouring of their tails, the two birds are precisely similar. This latter organ (the tail) is very peculiar, and differs from that of all other Humming-Birds, although there is a tendency to the same form among the other true members of the genus *Calothorax*. All the Humming-Birds I have ever seen have had ten tail-feathers; in some instances, however, certain of these feathers are so extremely small as to be almost obsolete; these are generally the central ones. In the present bird, and in *Calothorax Rosæ*, the outer feather is very short and sharp-pointed; the two next on each side are much longer and of equal length, while the four central ones are so short as to be almost hidden by the tail-coverts. In my specimens of these two nearly allied species, the bill of the *C. Jourdani* is rather longer than that of *C. Rosæ*; but whether this difference be constant or not I am unable to say, having seen but a limited number of the former.

The *Calothorax Jourdani* has been named by M. Bourcier in honour of that very able zoologist, M. Jourdan, the Director of the Museum of Natural History at Lyons. It is a pity, however, that, if the practice of naming species after individuals, of which, as I have remarked in my account of *C. Rosæ*, I very much disapprove, is to be continued, so pretty a bird had not been named in honour of some lady who merited such a compliment; still in this instance it is very well bestowed, and I have much pleasure in transcribing the passage in which it is conferred in M. Bourcier's own words:—

"Le nom de cette nouvelle espèce rappelle celui d'un de nos collègues et compatriotes, M. Jourdan, qui vient de rendre d'importants services à la science. C'est à lui que notre ville doit l'organisation de sa belle galerie de zoologie, disposée d'après sa savante classification, qui a pour base le système nerveux. Plusieurs naturalistes nous ont déjà précédés dans l'hommage que nous nous plaisons à lui adresser aujourd'hui."

The male has the head, all the upper surface, wing- and tail-coverts, four centre tail-feathers, flanks and abdomen bronzy green; wings purple-brown; lateral tail-feathers purplish brown, with a stripe of sandy red down the centre of the basal half of the four longer ones; on the chin and throat a gorget of the richest deep lilac or puce, below which is a band of greyish white; bill black; feet brownish black.

The female has the whole of the upper surface, centre tail-feathers, wing-coverts and upper part of the flanks golden green; wings purplish brown; three outer tail-feathers on each side sandy buff, crossed obliquely by a broad mark of black; under surface buffy white, becoming of a deeper hue on the flanks.

The Plate represents both sexes of the size of life. The plant is the *Oncidium incurvum*.

CALOTHORAX FANNY.

J. Gould and H. C. Richter, del. et lith.

Hullmandel & Walton, Imp.

CALOTHORAX FANNY.

Fanny's Wood Star.

Ornismya Fanny, Less. Ann. Sci. Nat. 1838, tom. ix. p. 170.—Ib. Rev. Zool. 1838, p. 314.
Trochilus Labrador, Bourc. Ann. de la Soc. Sci. de Lyons, 1839, p. 389. pl. viii.—De Latt. Rev. Zool. 1846, p. 311.
Calothorax Fanny, Gray and Mitch. Gen. of Birds, vol. i. p. 110, *Calothorax*, sp. 14.
Thaumastura fanny, Bonap. Consp. Gen. Av., p. 85, *Thaumastura*, sp. 3.
Lucifer labrador, Bonap. Rev. et Mag. de Zool. 1854, p. 257.
——— *Labrador*, Reichenb. Troch. enumer., p. 10.
Myrtis Fanny, Reichenb. Aufz. der Colibris, p. 13.

That Humming Birds, like other beauties of a higher type in creation, have their ardent admirers, is evident from the attention which has been lavished by ornithologists upon the one here represented, to which no less than six generic and two specific appellations have been assigned by five authors. Of the former I have retained that of *Calothorax*; of the latter I select the living name of *Fanny*, as it appears to have precedence over the dead one of *Labrador*, which was given to it by M. Bourcier on account of the colouring of its throat resembling the hues of the spar of that name. Now where does this bird find a natural habitat? Not in Mexico, as stated by M. Bourcier in the "Annals of the Scientific Society of Lyons," but in the districts bordering the sea, in Peru and Bolivia, where several of my specimens were collected and sent to me direct by M. Warszewicz.

The *Calothorax Fanny* is a very beautiful species, and is rendered remarkable by the singular construction of its tail, which, when outspread, looks as if it had been deprived of, or had lost all its middle feathers; such, however, is not the case, for, like all Humming Birds, it possesses the full complement of ten; the central ones must, however, be regarded as mere apologies, for, although they are perfectly formed, they are so short that they are nearly hidden by the coverts—a circumstance which has obtained for it the name of 'half-tail' among the dealers.

The female of this species, like the female of *C. Yarrelli*, differs considerably from her mate in her colouring, as will be seen on reference to the Plate or to the following descriptions.

The male has the head, upper surface and wing-coverts golden bronze, becoming of a greener hue on the upper tail-coverts; wings purplish brown; tail brownish black, glossed with bronze; lores and throat metallic glaucous-green, changing to blue and then to violet on the lower margin of these feathers; across the breast a broad band of greyish white; upper part of the flanks bronzy; lower part fawn-colour; upper part of the abdomen dusky; lower part and under tail-coverts white; bill and feet dark brown.

The female has the upper surface and wings as in the male; central tail-feathers of the ordinary form, not abbreviated as in the opposite sex, and of a bronzy green; next on each side bronzy green, tipped with black; the remainder grey at the base, black in the middle, and largely tipped with white; all the under surface deep greyish buff or fawn-colour.

The Plate represents two males and a female of the size of life. The plant is the *Passiflora nigrelliflora*.

CALOTHORAX YARRELLI.

J. Gould and H.C. Richter, del et lith.

Hullmandel & W.

CALOTHORAX YARRELLI.

Yarrell's Wood-star.

Trochilus Yarrellii, Bourc. in Proc. of Zool. Soc., Part XV. p. 45.

Several undescribed species of Humming-Birds in the collection of the late Mr. Loddiges, at Hackney, having been submitted to M. Bourcier during one of his recent visits to this country, that gentleman took the opportunity of complimenting several naturalists by giving their names to some of these new species: one of the most interesting of them he called *Yarrellii*, in honour of William Yarrell, Esq., so well known as one of the truest friends of natural history, and so celebrated for his valuable works on British Fishes, British Birds, &c.

That the compliment in this instance, at least, is a just and well-deserved one, will be admitted by all who take an interest in natural science, but especially by those who, like myself, are honoured by his friendship; a happiness I have now enjoyed for upwards of twenty years: it affords me therefore peculiar pleasure to perpetuate it in the present work.

The figures in the accompanying Plate were not taken from the specimens in the Loddigesian collection, but from others lately received from Arica on the west coast of South America by M. Bourcier, to whom I am indebted for the loan of them. It is scarcely necessary for me to say that this is a species of the greatest rarity; and I am sure every one will admit that it is a bird of considerable beauty, and singularly interesting on account of its peculiarly formed tail; a peculiarity which no doubt influences its actions and mode of flight.

I believe the true habitat of this singular bird will be the southern parts of Peru and Bolivia, and that it will be limited to the districts lying between the mountain ranges and the sea.

The male has the crown of the head, all the upper surface, flanks, and four centre tail-feathers light yellowish green; chest, centre of the abdomen and under tail-coverts greyish white; on the throat a gorget of purplish-blue with lilac reflexions, the blue tint predominating in the centre; wing greyish brown; lateral tail-feathers dark brown; bill and feet blackish brown.

The female differs, in being destitute of the gorget; in having the lateral tail-feathers grey at the base, black in the centre, and white at the apex: in other respects she resembles her mate.

The Plate represents two males and a female on the *Opuntia Salmiana*, of the natural size.

THAUMASTURA CORA.

J.Gould and H.C.Richter, del. et lith

Hullmandel & Walton Imp

THAUMASTURA CORÆ.

Cora's Shear-tail.

Ornismya Cora, Less. et Garn. Voy. de la Coq. Ois., pl. 13. fig. 4.—Less. Hist. Nat. des Ois. Mou., p. 52. pl. 6.—Ib. Les Troch., pp. 109, 111, pls. 39, 40.—Ib. Traité d'Orn., p. 275.—Ib. Man. d'Orn., tom. ii. p. 82.—Ib. Ind. Gen. et Syn. des Ois. du Gen. Troch., p. xxxii.

Calothorax cora, Gray and Mitch. Gen. of Birds, vol. i. p. 110, *Calothorax*, sp. 6.

Trochilus Cora, Jard. Nat. Lib. Humming-Birds, vol. i. p. 129. pl. 25.—Tschudi, Faun. Peruana, p. 39.

Thaumastura cora, Bonap. Consp. Gen. Av., p. 85, *Thaumastura*, sp. 1.—Reich. Aufz. der Col., p. 13.—Bonap. Rev. et Mag. de Zool. 1854, p. 257.

This species has been named *Cora* by M. Lesson after the priestess of the Sun, so charmingly described by Marmontel in his romance of the Incas. It is not only a very beautiful and elegant bird, but it is rendered one of the most remarkable members of the entire group to which it pertains by the singular form of its tail, which curious structure, however, is confined to the male sex alone. The females of the *Cora*, the *Eliza*, the *Fanny*, and the *Yarrelli*, although very different from their respective males, are all remarkably similar to each other, which circumstance most clearly indicates that these birds belong to one group, or that at least they are very nearly allied.

The native country of the *Thaumastura Coræ* is Peru, over which it enjoys a rather wide range of habitat. It is often spoken of by travellers as occurring in abundance between the port of Callao and the city of Lima. Independently of this locality, I possess specimens brought from the interior of the country by M. Warszewicz, and one which is labelled as having been procured in one of the valleys of the Andes.

The male has the head, upper surface and wing-coverts golden-green; wings purplish-brown; throat metallic violaceous-crimson; under surface greyish-white; tail dull black, all but the outer feather on each side margined on the internal web from the base to near the tip with white.

The female has the head greyish-green; all the upper surface bronzy-green; wings purplish-brown, the outer feather on each side with a light-coloured shaft; two centre tail-feathers green, spotted with black near the end of the inner web and slightly fringed with white at the tip; lateral feathers blackish-brown with white; under surface buffy-white.

The young males differ very considerably from the adults of either sex: as might be supposed, the rich colouring of the throat is entirely wanting; on the other hand the tail is similar to that of the adult, but is neither so long nor so distinctly marked with black and white; the throat and under surface are dull grey, the former being indistinctly spotted with a darker colour.

The Plate represents three males, a young male, and a female, of the size of life. The plant is a species of *Mimosa*, copied from a drawing kindly lent to me by M. Bourcier.

RHODOPIS VESPERA.

J. Gould and H.C. Richter, del. et lith.

Hullmandel & Walton, Imp.

RHODOPIS VESPERA.

Evening Humming Bird.

Ornismya vesper, Less. Hist. Nat. des Ois. Mou., p. 85. pl. 19.—Ib. Hist. Nat. des Troch., p. 33. pl. vi.—Ib. Rev. Zool. 1838, p. 14.—Ib. Traité d'Orn., p. 273.
Trochilus vesper, Jard. Nat. Lib. Humming Birds, vol. i. p. 127. pl. 24.
Calothorax vesper, Gray and Mitch. Gen. of Birds, vol. i. p. 110, *Calothorax*, sp. 13.
Thaumastura vesper, Bonap. Consp. Gen. Av., p. 85, *Thaumastura*, sp. 2.
Lucifer vesper, Bonap. Rev. et Mag. de Zool. 1854, p. 257.
Rhodopis vespera, Reichenb. Aufz. der Colibris, p. 13.
Calliphlox vespera, Reichenb. Troch. enumer., p. 10.

It will be seen, on reference to the synonyms given above, that this species has been honoured with no less than seven generic names: happily, the specific appellation has been permitted to remain unchanged.

The name of Evening Humming Bird was doubtless assigned to it by M. Lesson, from an impression that it only flies at that period of the day, but I do not think that its habits differ at all from those of the other members of the family, which generally avoid the mid-day sun, and seek their insect food in the morning and evening; still the name is pretty, and there is no great objection to it. As to the bird itself, it may rank among the most beautiful and elegant members of its family, the lovely amethystine hues of its throat vieing in delicacy with any of them. Lesson states that it is a native of Chili, but as I have never seen any specimens from that country, or heard of its occurring there, I very much question if it ever goes so far south; if it does, it is only to its northern confines. That it inhabits Southern Peru is certain, numerous examples having been forwarded to me direct from thence by M. Warszewicz and other collectors. I believe it is found in the neighbourhood of the Arica, or that portion of the country lying between the sea and the Cordilleras. It is possible that it is also to be met with in Bolivia, but of this I have no direct evidence. The great length of its wings, the forked form of its tail, and the smallness of its feet, all indicate that it possesses great powers of flight.

The male has the centre of the throat fine amethystine red, changing on the margin to purplish blue, producing an iridescence it is impossible accurately to describe; all the upper surface bronzy greenish brown, the brown hue prevailing on the crown; wings purple-brown; central tail-feathers olive-grey, outer tail-feathers dark brown; rump crossed by an indistinct band of rusty red; under surface greyish white, washed with dusky on the flanks; bill and feet blackish brown.

The female has the upper surface of a similar but paler hue than that of the male; a wash of rufous on the upper tail-coverts; two centre tail-feathers and basal portion of the lateral ones bronzy green; the feather on each side the two central ones tipped with black, the remainder crossed obliquely with black, and largely tipped with white; under surface greyish white.

The Plate represents the two sexes of the size of life. The plant is the *Zygopetalon Murrayanum*.

THAUMASTURA ELISÆ.

J. Gould and H.C. Richter, del. et lith.

Hullmandel & Walton, Imp.

THAUMASTURA ELIZÆ.

Mexican Shear-tail.

Trochilus Eliza, Less. et DeLatt. Rev. Zool. 1839, p. 20.
Myrtis Elisa, Reich. Aufz. der Colibris, p. 13.
Lucifer elisa, Bonap. Rev. et Mag. de Zool. 1854, p. 257.
Calothorax Eliza, Gray and Mitch. Gen. of Birds, vol. i. p. 110, *Calothorax*, sp. 8.

We have here a Humming-bird of especial beauty; its colouring being so chaste and its form so elegant, that it is unsurpassed in loveliness by any other member of the section to which it belongs. It is indeed an object strictly in unison with the rich and fairy-like lands of which it is a native, namely Jalapa and the other genial provinces of Mexico. Few of the Trochilidæ are more rare, and few are the collections which contain examples; I, however, have the good fortune to possess a male and a female with their nest and eggs, all of which were procured at Cordova in Mexico by M. Sallé.

The first description of the species appeared in the "Revue Zoologique" for 1839, from the pen of M. DeLattre, a gentleman well acquainted with the Trochilidæ, but who unhappily is now no more, and who, it is to be feared, contracted the disease which terminated his useful life during his pursuit of this group of birds, of which he obtained many new species.

The following remarks, which are given in M. DeLattre's own words, comprise all that is at present known respecting this lovely bird:—

"Cette espèce, excessivement rare, a été rencontré dans le pays appellé le *Pas de Taureau*, entre la Vera Crux et Jalapa. Elle est très matinale, vit en société, et reste en repos depuis neuf heures du matin jusqu'à quatre heures du soir. Le mâle fait entendre en volant un bourdonnement assez fort. Il se couche tard et lorsqu'il ne voit absolument plus. Il se nourrit sur les arbres."

M. DeLattre named this species *Eliza* in honour of the wife of Dr. Amédée Lefèvre, Professor of Zoology and Materia Medica at Rochefort.

The male has the crown of the head bronzy-brown; sides of the head, back of the neck, all the upper surface of the body, upper and under wing-coverts and flanks of a rich shining golden hue; upper tail-coverts shining green; wings purplish-brown; chin and chest beautiful metallic violaceous-crimson; across the breast a broad gorget of white; centre of the abdomen, vent and under tail-coverts dull white; tail purplish-black, all but the outer feather on each side margined internally from the base to near the tip with deep sandy-buff; bill and feet blackish-brown.

The female has the crown greyish-brown; all the upper surface golden-green; wings purplish-black; central tail-feathers shining green, the remainder sandy-buff at the base, then black, and white at the tip; under surface white tinged with buff.

The nest is of a round, cup-shaped, but somewhat lengthened form, and is placed in the fork of a small upright branch: it is composed of a cottony material coated on the outside with a dark reddish-coloured moss, flat pieces of lichens, &c., bound together with cobwebs; the eggs as usual are white and two in number.

The Plate represents two males and a female of the natural size. The plant is the *Begonia biserrata*.

CALOTHORAX EVELINÆ.

J.G. Keulemans del. et lith.

Hullmandel & Walton imp.

CALOTHORAX EVELYNÆ.

Bahama Wood-star.

Trochilus Evelynæ, Bourc. Proc. Zool. Soc., part xv. p. 44.—Ib. Rev. Zool. 1847, p. 256.
Calothoraæ Evelynæ, Gray and Mitch. Gen. of Birds, vol. i. p. 110, *Calothoraæ*, sp. 9.
———— *Evelinæ*, Reich. Auf. der Col., p. 13.—Ib. Troch. Enum., p. 10.
Callothoraæ evillina, Bonap. Rev. et Mag. de Zool. 1854, p. 257.
Trochilus Bahamensis, Bryant, List of Birds seen at the Bahamas, &c., p. 5.

To be aware of the existence of a Humming-Bird on the principal of the Bahama Islands, and to fail in every attempt to procure a specimen of it during a period of thirty long years, seems scarcely possible, nevertheless such has been the case. Through the instrumentality of a friend at Liverpool, the late Mr. Swainson procured a male from New Providence about thirty years ago, and presented it to the late Mr. George Loddiges; from that date the bird appears not to have been noticed by any traveller or naturalist until 1859, when it was observed by Dr. Bryant during his four months' sojourn in the neighbourhood of Nassau in New Providence. It will be seen from the following note that it is by no means rare on at least the principal island of the Bahama group; indeed it would seem to be even more numerous than is usual with the other members of the group. I am very much indebted to my friend George N. Lawrence, Esq., of New York, for the loan of the two specimens of each sex for the purpose of the accompanying illustration, both of which were collected by Dr. Bryant, to whom much credit is due for the masterly manner in which he has described the birds of that little-known group of islands, the Bahamas. I regret exceedingly to be obliged to reduce the specific name of *Bahamensis* assigned to the bird by this gentleman to the rank of a synonym; but I have no alternative, that of *Evelynæ* having been given to it some years before by M. Bourcier, when describing some of the rarities contained in the Loddigesian collection.

The Bahama Wood-star may be ranked among the most beautiful members of its genus; but few of them possessing greater elegance of form, and certainly none a more lovely-coloured throat.

I append Dr. Bryant's observations on the bird, together with his description:—

"This species of Humming-Bird is the only one found at Nassau and neighbouring islands. It is quite abundant there, and a constant resident. All the specimens I procured, seven in number, were killed in February and the early part of March; at that time its food consisted almost entirely of a small green aphis, found abundantly on the West Indian vervain (*V. Stachytarpheta*), a small blue flower that grows in all the dry pastures. Gosse calls the least Humming-Bird of Jamaica the Vervain Humming-Bird, from its hovering round this plant; but the name would apply equally as well to the present species. I saw nothing in its habits differing from those of the common ruby-throated species, with the exception that it was more quarrelsome in its disposition, chasing the 'fighter,' as the *Tyrannus caudifasciatus* is called, whenever it came near him, and that its note is louder and shriller, and much more frequently uttered. Incubation commences by the 1st of March. I saw three nests of this bird: one, found on the 3rd of March, contained two eggs partly hatched; a second, April 10th, one egg; and another in May, two eggs. The nests are all composed of the same materials, principally the cotton from the silk cotton-tree, with a few downy masses that looked as if derived from some species of *Asclepias*; this was felted and matted together, and the outside stuck over with bits of lichen and little dry stalks or fibres of vegetable matter: one now before me measures ·030 in diameter and ·033 in height externally, and the inside ·018 in depth and ·025 in diameter. The eggs, like those of all the other members of the family, are two in number, snow-white when blown, and slightly rosy before, and measure ·012 in length by ·008 in breadth.

"*Description.*—Adult male:—Above, green with metallic reflexions, slightly golden on the back, and with the tips of some of the feathers in some specimens bluish; the head darker and more sombre; wings brownish purple, with dull greenish reflexions in some lights; tail dark purple, almost black, also with greenish reflexions; the outer feather on each side with an almost obsolete terminal spot of rufous, the next with the whole of the inner web bright cinnamon, the next again with the whole of the inner and the basal half of the outer web of the same colour, this colour then running nearly to the tip in a diagonal manner, leaving the part next the shaft purple; the basal half of all the shafts, except the two outer, cinnamon; throat magnificent purple-violet; immediately below this a broad gorget of white; abdomen green mixed with rufous; thighs white; crissum pale rufous white; bill and tarsi black.

" Adult female :—Upper parts less lustrous than in the male, the feathers margined more or less with rufous grey ; wings as in the male ; tail with the middle feathers brilliant green, the rest cinnamon, with a purplish-black band running from the outer feather obliquely downward and inward to the tips of the fourth on each side, forming a broadly-shaped mark ; between the black band and the cinnamon there is a spot of bright green, most conspicuous in the feather next the central ones, and growing gradually indistinct towards the outer ones ; throat pale rufous white, the centre of the feathers darkest, and on the sides and posteriorly a little green ; abdomen entirely rufous ; legs and crissum pale rufous. The dimensions do not differ from those of the male.

" Young male in winter :—Upper parts intermediate in brightness between the male and female ; throat white, with a few feathers beginning to show the violet ; tail as in the male.

" All the males procured by me, four in number, had but eight tail-feathers ; while all the females, three in number, had ten. It can hardly be supposed that in four specimens, the same two feathers, and but two, should have been lost from every specimen. In form the tail-feathers are rather narrow, and the inner webs of the two outer slightly falciform or emarginated. The two outer feathers are slightly shorter than the next, which are the longest ; the next two again are rather shorter, and the central ones considerably shorter. The feathers composing the tail of the female are broader than those of the male ; the third from the outside is the longest ; the first, second, and central one as in the male ; and the fourth slightly shorter than the third."

Dr. Bryant has deceived himself as to the number of the tail-feathers in the male : all Humming-Birds have ten ; but in some instances the middle feathers are so short as to be entirely hidden by the coverts, and this is precisely the case in the male of *Calothorax Evelynæ*.

The Plate represents both sexes of the natural size. The plant is the *Begonia heracleifolia*, var. *nigricans*.

THAUMASTURA ENICURA.

J. Gould and H.C. Richter del. et lith.

Hullmandel & Walton, Imp.

THAUMASTURA ENICURA.

Slender Shear-tail.

Trochilus enicurus, Vieill. Nouv. Dict. d'Hist. Nat., 2nde Edit., tom. xxiii. p. 429.—Ib. Ency. Méth. Orn., part ii. p. 560.—Temm. Pl. Col. 66, fig. 3.—Jard. Nat. Lib. Humming-Birds, vol. i. p. 145. pl. 27.

Ornismya heteropygia, Less. Hist. Nat. des Ois. Mou., p. 72. pl. 15.

Trochilus Swainsonii, Less. Les Troch., p. 167. pl. 66, female.

Calothorax enicurus, Bonap. Consp. Gen. Av., p. 85, *Calothorax*, sp. 7.

Although Lesson and other authors have stated Brazil to be the native country of this elegant species, it is quite certain that Central America is its true and natural habitat, most of the specimens forwarded to Europe having been sent from Guatemala. I have no evidence that it is found to the south of the Isthmus of Panama, and that it does not extend beyond the eighteenth degree northwards is almost certain; my own opinion is that its range is confined to the warmer and temperate region of Guatemala and Yucatan, where in all probability it is stationary or non-migratory, its diminutive wing being ill-adapted for the performance of extensive journeys.

The form of this species is as delicate and symmetrical as its colours are chaste and harmoniously blended; and this remark is equally applicable to both sexes, which, however, are so remarkably different in colouring, that their belonging to the same species might justly be doubted, if we had not positive evidence that such is the case. Don Constancia has kindly sent me a male and a stuffed female, sitting on her tiny nest, and gives me his positive authority upon the foregoing point.

In its deeply forked and singularly formed tail, this species differs from all its congeners. The Prince of Canino considers the *Trochilus Swainsonii* of Lesson to be the female of this bird; and in the absence of any proof to the contrary, I coincide in the Prince's view.

Upper surface deep shining green, tinged with brown on the head, and with a rich bronzy lustre on the back and wing-coverts; wings purplish brown; tail purplish black, the inner webs of the two outer feathers sometimes narrowly margined with brown; chin black, glossed with green; throat deep rich metallic purple, below which is a very broad crescentic mark of buff; under surface bronzy green with a spot of buff on the flanks; across the lower part of the abdomen an irregular band of white; centre of the abdomen dark grey; under tail-coverts greenish; bill and feet blackish brown.

The female has the whole of the head, upper surface, wing-coverts, upper tail-coverts, and four middle tail-feathers bronzy green; wings purple-brown; on each side of the back a patch of white; under surface rufous fading into a paler tint on the chin; two outer tail-feathers on each side rufous at the base, to which succeeds a broad band of black, the tip being white; the third feather on each side rufous at the base, and largely tipped with black.

The Plate represents two males and a female, on a branch of one of the fine Orchids of Guatemala.

J. Gould and H.C. Richter del. et lith.

TAVELENA DUPONTII

Hullmandel & Walton Imp.

TRYPHÆNA DUPONTI.

Sparkling-tail.

Ornismya Dupontii, Less. Coll., p. 100, Suppl. pl. 1.—Jard. Nat. Lib. Humming-birds, vol. i. p. 131. pl. 26.

——— *Zémès*, Ib. Rev. Zool. 1838, p. 315.

——— *cœlestis*, Ib.

Mellisuga Dupontii, Gray and Mitch. Gen. of Birds, *Mellisuga*, sp. 71.

If this species be not one of the most gaily coloured, it is certainly one of the most beautiful of the smaller members of the *Trochilidæ*; and is no less interesting from the elegance and just proportions of its form, than for the singularly varied style of its plumage; similar markings of the tail exist in the Amethystine Humming-bird (*Tryphæna Amethystina*), but while in that species they are very slightly indicated, they are carried to the maximum in the present bird.

The native habitat of the *Tryphæna Duponti* is Guatemala in Mexico; Mr. Skinner, of Chipperfield House, informs me that it is very abundant in the environs of that city, and that it frequents the gardens and even the houses of the inhabitants, wherever there are flowers to attract its presence. M. Lesson states that its trivial French name of *Zémès* has been given to it from idols so called, formerly worshiped by the Mexicans and Haytians.

As will be seen on reference to the Plate, a most remarkable difference exists, both in the form of the tail and in the colouring of the two sexes; so much so, indeed, that had we not undoubted evidence of their being but one, they would certainly be considered to constitute two species.

The nest figured is a small neatly-formed round structure, attached to the side of a small branch of a rose-tree, immediately above the insertion of a leaf-stalk, which serves for a support, and is composed of vegetable fibres and a material resembling thistle-down, thickly matted over with small pieces of lichens, apparently attached by means of spider's web; the eggs are two in number, and of a fleshy white.

The male has the upper surface bronzy green, with the exception of two crescentic marks of white, one on either side of the rump; wings dark purplish brown; throat rich deep blue, with the base of the feathers black; across the breast a broad crescent of pure white, the points of which extend on to the sides of the neck; under surface and under tail-coverts green, with a bronzy hue; across the vent a band of white; the tail is rendered remarkably sparkling by the decided contrasts of its colours, green, dark brown, deep rusty red and pure white, the arrangement of which may be thus described:—two centre feathers very short and of a shining green, the next on each side green with bronzy reflexions; the next on each side is dark brown, with two triangular spots of white on their inner webs, one near the middle, the other at the tip; basal half of the two lateral feathers on each side dark brown, to which succeeds, first a band of deep rusty red, then a broader one of white, next a broad band of dark brown, and finally the tip is white; bill and feet dark brown.

Total length, 4 inches; bill, $\frac{5}{8}$; wing, $1\frac{1}{2}$; tail, 2.

The female has all the upper surface rich bronzy green, separated from the green of the upper tail-coverts by two large marks of buff on either side of the rump; tail purplish black, glossed with bronzy green at the base, all but the two centre feathers with a spot of white encircled with buff at the tip; all the under surface light rusty red, becoming darker on the flanks and under tail-coverts; vent white.

Total length, $2\frac{3}{4}$ inches; bill, $\frac{5}{8}$; wing, $1\frac{3}{8}$; tail, $\frac{7}{8}$.

The figures represent three males, a female, a nest and eggs, all of the natural size.

J.Gould and H.C.Prehtwr. del. et lith.

J. Hunnard & Watton imp.

CALLIPHLOX AMETHYSTINA.

The Amethyst.

Trochilus amethystinus, Gmel. Edit. Linn. Syst. Nat., tom. i. p. 496.—Lath. Ind. Orn., vol. i. p. 319.—Vieill. Ency. Méth. Orn., part ii. p. 561.—Pr. Max. Beitr. zur Naturg. von Bras., p. 90.—Shaw, Gen. Zool., vol. viii. p. 328.—Jard. Nat. Lib. Humming Birds, vol. ii. p. 64. pl. 9.

L'Oiseau-mouche Améthiste, Buff. Hist. Nat. des Ois., tom. vi. p. 16.—Audeb. et Vieill. Ois. dor., tom. i. p. 115.

Petit Oiseau-mouche à queue fourchue de Cayenne, Buff. Pl. Enl. 672. fig. 1.

Ornismya amethystina, Less. Hist. Nat. des Ois. Mou., p. 150. pl. 47.—Ib. Les Troch., p. 90. pl. 30. nest, & p. 140. pl. 52 ?—Ib. Traité d'Orn., p. 274.

——— *amethystoides*, Less. Les Troch., pp. 81, 83. & pls. 26, 27. p. 79. & pl. 25 ?

——— *orthura*, Less. Les Troch., p. 85. pl. 28. p. 88. pl. 29.

Mellisuga amethystina, Steph. Cont. of Shaw's Gen. Zool., vol. xiv. p. 243.—Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga*, sp. 72.

——— *amethystoïdes*, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga*, sp. 73.

Trochilus campestris, Pr. Max. Beitr. zur Naturg. von Bras., p. 73.

Tryphæna amethystinus, Bonap. Consp. Gen. Av., p. 84, *Tryphæna*, sp. 2.

——— *amethystina*, Bonap. Rev. et Mag. de Zool. 1854, p. 257.

Calliphlox amethystina, Reichenb. Aufz. der Colibris, p. 12.—Ib. Troch. enumer., p. 10.

Amethystine Humming Bird, Lath. Gen. Syn., vol. ii. p. 787.—Ib. Gen. Hist., vol. iv. p. 357.—Shaw, Gen. Zool., vol. viii. p. 328.

Tryphæna Amethystina, Gould, in Description of *T. Daponti*.

Two supposed species of this form have been described and figured in works on Ornithology, under the names of *Amethystina* and *Amethystoïdes*; the former of which is said to inhabit Cayenne and Brazil, and the latter Brazil only. The young bird of one of them is figured under another name—that of *orthura*; hence has arisen much confusion respecting the synonymy of this species. I may state, that never having seen a bird from any country precisely accordant with M. Lesson's figure of *Amethystoïdes*, which is said to have been taken from a Minas Geraes specimen, I am unable to say whether it be or be not a species; at present I am inclined to consider it identical with the present bird, which opinion is in some measure confirmed by a remark of Mr. Reeves, that the *Amethystina* from Minas Geraes, though smaller, is probably the same, as he observes that all the Humming Birds from that province are smaller than those from Rio de Janeiro and have feathers of a drier texture.

In justice to M. Bourcier, who furnished M. Lesson with the specimens from which his figures were taken, I append a few lines just received from him respecting *Amethystina* and *Amethystoïdes*:—

"These two species have a general resemblance, especially in the adult state, but there are well-marked characters in the plumage of the young and of the females; it was this which determined me, when M. Lesson was publishing "Les Trochilidées," to give him several examples for examination, and it was among the younger specimens that he fancied he had discovered a new species, to which he gave the name of *orthura*, which however is only the young of *Amethystina*."

I may here be permitted to remark, that I suspect M. Bourcier must be mistaken, when he says that the

plumage of the young and females exhibit a marked, that is, a different character, since it is well known that wherever species are very intimately allied, the females and youthful birds assimilate even more closely in every respect.

The only noticeable circumstance in favour of Lesson's *orthura* being distinct is, that some of the specimens in my collection according most closely with his figure, have more lengthened bills than those which I believe to be females of *Amethystina*.

My figures were taken from Brazilian specimens sent to me by Mr. Reeves, who states that in Brazil the bird inhabits the interior of the provinces of Bahia, Rio de Janeiro, Novo Friburgo and Minas Geraes, but is nowhere very common, and that it frequents the gardens when the orange-trees are in flower, the valleys when the *Marrianeira* is blooming, and the forests when the flowers elsewhere are no longer inviting. It arrives in Rio in July, is most numerous in September and October, and departs again on the approach of the hot season. Its nest is invariably placed in the highest and driest trees.

The following are the states which this bird appears to assume :—

An adult from the neighbourhood of Rio de Janeiro has the head, all the upper surface, wing- and tail-coverts bronzy green; wings and outer tail-feathers purplish brown; four central tail-feathers washed with green; throat amethystine red, bounded below by a broad band of greyish white; flanks bronzy; centre of the abdomen grey, passing into the greyish buff of the vent and under tail-coverts; bill black; feet brown.

An adult male from Cayenne assimilates very closely with the above in colour, but has the abdomen a little darker, and with less buff on the vent, and the under tail-coverts strongly washed with green.

The young males, with lengthened and forked tails, have the general colouring of the body the same as in the adult, but the throat, instead of being amethystine, is spotted and streaked with brown on a grey ground.

The females, or what I consider to be examples of that sex, have the upper surface very similar to that of the male; the throat grey, sometimes uniform, while at others it is spangled with amethystine; the breast crossed by an obscure band of grey; the flanks and under tail-coverts either pale or rich buff, and the three outer tail-feathers brownish black, largely tipped with rich buff.

In another state the throat is grey, sparingly spangled with amethystine, while the band crossing the chest, the centre of the abdomen and under tail-coverts are brownish grey, and the flanks bronzy green; the feathers of the tail bronzy green at the base, crossed near the extremity with a brownish band, and slightly tipped with grey. This may be the fully adult female.

The Plate represents two adult males, a young male, and a female, of the natural size. The plant is copied from a drawing sent to me by Mr. Reeves.

CALLIPHLOX MITCHELLI.

J. Gould and H. C. Richter, del et lith.

Hullmandel & Walton Imp.

CALLIPHLOX MITCHELLI.

Mitchell's Amethyst.

Trochilus Mitchelli, Bourc. in Proc. of Zool. Soc., part xv. p. 47.—Ib. Rev. Zool. 1847, p. 259.
Mellisuga Mitchelli, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga*, sp. 74.
Calothorax Mitchelli, Reichenb. Auf. der Col., p. 13.
Tryphæna mitchelli, Bonap. Rev. et Mag. de Zool. 1854, p. 257.

When M. Bourcier was in England in 1847, he solicited the privilege of minutely examining the collection of Humming-Birds formed by the late Mr. George Loddiges of Hackney; not only was this privilege granted him, but he was also permitted to describe any of the novelties contained therein. In selecting the specific appellations for these, M. Bourcier embraced the opportunity of dedicating the new species (ten or twelve in number) to the more prominent living naturalists of our country; several of those, whose names have thus been handed down to posterity, associated with the beautiful gems of Nature I have attempted to illustrate, have since paid the debt of nature, and departed from among us. Spence, Yarrell, Doubleday, and Mitchell are all names familiar to every British naturalist; the last especially so, for his great zeal in the promotion of natural history, and by whose premature death both science and art have lost one of their truest votaries. His personal friends cannot but cast a mournful look upon the many evidences which remain of his intellectual tastes and acquirements.

As far as is yet known, only two specimens of the *Calliphlox Mitchelli* have been procured; of these (both of which are males), one is contained in the Loddigesian, the other in my own collection. The locality given for Mr. Loddiges' specimen is Zimapan; my own was collected in the neighbourhood of Popayan.

This rare bird is allied in the character of its colouring to the *Calliphlox Amethystina*, and in that of its tail to *Calothorax Fanniæ*.

Head, all the upper surface, wing- and tail-coverts, flanks, abdomen, and under tail-coverts dark oil-green; throat, sides of the neck, and breast deep violet, below which is a broad crescentic mark of dull grey; tail dark purplish brown; on the sides of the flanks, near the back, an oblong patch of buff; bill black; feet dark brown.

The figures are of the natural size. The plant is the *Lisianthus acutangulus*.

LODDIGESIA MIRABILIS.

J Gould and H C Richter, del. et lith.

Walter & Cohn, Imp

LODDIGESIA MIRABILIS, *Gould.*

Marvellous Humming-Bird.

Trochilus mirabilis, Bourc. in Proc. of Zool. Soc., part xv. p. 42.
Loddiggiornis mirabilis, Bonap. in Rev. et Mag. de Zool. 1854, p. 256.
Mulsantia mirabilis, Reichenb. Aufz. der Col., p. 12.
Orthorhynchus mirabilis, Reichenb. Troch. Enum., p. 9.

I SCARCELY know how to commence my account of a Humming-Bird which has for so many years been an object of the highest interest, not only to myself, but to every one who has paid attention to the *Trochilidæ*, and which I have made the type of my genus *Loddigesia*, a term proposed in honour of my much-valued and lamented friend the late Mr. George Loddiges. This extraordinary and beautiful bird was killed by Mr. Andrew Mathews, a botanist, who proceeded to Peru some thirty years ago for the purpose of collecting any rare and beautiful plants he might discover, and who, alas for science! like too many others whose enthusiasm has led them to distant lands for the like purpose, met with an untimely death. Thanks to the kindness of Miss Loddiges, I have now before me the original letter from Mr. Mathews to her father respecting this bird, sent prior to the transmission of the specimens. In it are tolerably accurate coloured sketches of two Humming-Birds which he conceived to be new to science, as indeed they were at the time: one of them is the bird in question, the other is the *Spathura Peruana*. Although this letter principally relates to other matters, it will be as well, perhaps, to transcribe the greater portion of it.

Chachapoyas, October 11th, 1835.

"DEAR SIR,

Your esteemed favour of the 6th reached me yesterday, per post from Lima. Since I left Lima I have added considerably to my collections, and also in Humming-Birds—several different from the 25 species sent you—and only wait a safe opportunity to send them from this to Lima. The two birds represented in the rough sketches sent herewith appear to me to be *new*. As yet I have met but one of each, and I believe them to be rare in the situations in which I shot them. The country has been in such a state of revolution for some time past, that it is very difficult to send large collections from this to the coast. I have sent two boxes of *Epiphytes* to Mr. Maclean at Lima, and am waiting an opportunity to forward more. But very few are known. Some of them are large-flowered and beautiful. Those from the Cordillera of this province are very hardy, but generally small-flowered. I had heard of the death of poor Douglas from Mr. Maclean, and regret it extremely. Science has lost one of its ablest and most indefatigable collectors. I can assure you that many times whilst travelling in this country my life has been exposed to imminent danger in the quelrados and bad roads of the Cordillera.

"I have the nests of three species of Humming-Birds of this province. It is difficult to meet with them (the boys of this country are not *bird-nest* hunters like those of England); it is only by chance I run against one whilst out collecting.

"With respects to Mr. William Loddiges, I beg to remain,

"Dear Sir,

"Yours very truly,

"ANDREW MATHEWS."

"To George Loddiges, Esq., Hackney, London."

"No. 1" (*Spathura Peruana*) "I shot at Moyobamba, the capital of the province of Maynas; and No. 2" (*Loddigesia mirabilis*) "at Chacapoyas, the capital of the department of the Amazonas. The latter is situated in the Cordillera, but is of a mild and even temperature, its average 64° Fahr."

Mr. Mathews's sketch of *Loddigesia mirabilis* is very similar to that of the bird in a sitting position on the lower part of my plate; but Mr. Loddiges informed me that he had fully satisfied himself that,

while the bird is flying, the outer tail-feathers cross each other in the manner represented in the upper figures, which are an exact representation of the mounted specimen in the Loddigesian collection. Mr. Loddiges came to this conclusion in consequence of finding that they naturally fell into this position upon the skin being thoroughly damped for the purpose of mounting. These feathers cross each other twice, first near the base, and secondly towards the middle; consequently each spatule, as represented in the drawing, belongs to the feather of that side. How very remarkable is this arrangement, and how different from what is found to occur in any other known species!

It would be very interesting to see this bird on the wing; for I have no doubt that its greatly developed spatules serve in some way to sustain it in the air; and if so, this may account for the very diminutive size of its wings. It is just possible that, when the tail is fully spread, the spatules may be projected in front of the line of the head. Ornithologists will remember that several of the *Caprimulgidæ* possess enormously developed plumes—some in their wings, others in the tail. Can this, then, be a nocturnal bird—a representative of the Goatsuckers among the Humming-Birds? Such an idea has more than once recurred to me; and if so, its rarity would be readily accounted for.

Anxious to obtain examples of this singular bird for my own collection, I have repeatedly offered large sums to various persons for their procuration, but hitherto, I regret to say, without success. The specimen in the Loddigesian collection, which is beautifully mounted, and in the finest state of preservation, therefore remains unique; I need scarcely add that the female is unknown.

Crown of the head brilliant blue; neck, scapularies, back, wing- and tail-coverts golden green; on the throat a gorget of very brilliant green, tinged with blue in the centre, and bounded on each side by a narrow band of coppery red; sides of the breast and flanks dull white; the greatly prolonged shaft of the outer feather on each side and the large spatule at its tip violaceous black; centre tail-feathers shining glaucous green, passing into brown at their tips; bill and feet black.

The figures are of the natural size. The plant is the *Æchmea mucroniflora*.

SPATHURA UNDERWOODI.

J. Gould and H.C. Richter del et lith

Hullmandel & Walton Imp

SPATHURA UNDERWOODI.

White-booted Racket-tail.

Ornismya Underwoodii, Less. Troch., p. 105. pl. 37.
Trochilus Underwoodii, Jard. Nat. Lib. Humming Birds, vol. ii. p. 110. pl. 22.
Fan-tailed Humming Bird, Lath. Gen. Hist., vol. iv. p. 339.
Trochilus ventilabrum, Lath. MSS.
Mellisuga Underwoodii, Gray and Mitch. Gen. of Birds, *Mellisuga*, sp. 56.

This species enjoys a range of habitat over the Columbian Andes extending from the third to the tenth degree of north latitude, but appears to be confined to the regions ranging between five and nine thousand feet above the level of the ocean; it is abundant in the neighbourhood of Santa Fé de Bogota, and is numerous in Galipan between La Guayra and the Caraccas. Mr. Dyson informs me that when hovering before a flower the actions of its wings are exceedingly rapid, that it produces a loud humming sound, and that the large spatules at the end of the outer tail-feathers show very conspicuously, being kept in continual motion by the rapid movements of the bird, and the repeated closing and expanding of the tail; its white-booted legs also are equally noticeable: it is strictly an inhabitant of the hills, and loves to examine the flowers growing in the open passes and glades of the forest for its insect food, which it procures from the highest trees as well as those near the ground. During flight it passes through the air with arrow-like swiftness, the tail being carried in a horizontal position.

The plumage of the two sexes is widely different; the female being entirely devoid of the rich lustrous green on the throat, and having only a rudiment of the white boots so conspicuous in the male: the structure of the tail of the two birds is also very dissimilar, as will be seen on reference to the accompanying Plate.

The male has the whole of the upper surface, the abdomen, flanks and under tail-coverts bronzy green, becoming richer and of a coppery hue on the upper tail-coverts; throat and chest rich lustrous green; wings purplish brown; tail brown, with the exception of the spatulate tips of the lateral tail-feathers, which are black with greenish reflexions; tarsi thickly clothed with white downy feathers; bill black; feet yellow.

Total length, $5\frac{1}{2}$ inches; bill, $\frac{5}{8}$; wing, $1\frac{3}{4}$; tail, $3\frac{3}{8}$.

The female has the upper surface and two middle tail-feathers bronzy green, the bronzy hue predominating on the head and the green on the tail-feathers; wings purplish brown; lateral tail-feathers brown, the outer one on each side largely tipped with white, the remainder with a wash of bronzy green at their extremities; under surface white, spotted on the sides of the breast and flanks with bronzy green; under tail-coverts buff; tarsi clothed with white feathers; feet yellow.

Total length, $3\frac{1}{4}$ inches; bill, $\frac{5}{8}$; wing, $1\frac{5}{8}$; tail, $1\frac{3}{8}$.

The figures represent two males and a female of the natural size, on a branch of the *Passiflora ligularis*.

SPATHURA MELANANTHERA, *Jard.*

J.Gould and H.C.Richter, del. et lith. *Hullmandel & Walton, Imp.*

SPATHURA MELANANTHERA, *Jard.*

Ecuadorian Racket-tail.

Trochilus (*Spathura*) *melananthera*, Jard. Cont. to Orn. 1851, p. 111. pl. LXXX.
Steganura melananthera, Reich. Auf. der Col., p. 8.
Discura melananthera, Bonap. Rev. Zool. 1854, p. 256.

It is to Sir William Jardine, Bart., that the credit is due of giving the first description of this very distinct species of *Spathura*, which appears to take the place in Ecuador of the more generally known *S. Underwoodi* so commonly sent from Bogota in Columbia. Both these birds are hill species, and both doubtless have similar habits and economies. The *S. melananthera* differs from *S. Underwoodi* in being of a smaller size, and in the form of the spatules, those of the former being shorter and more club-shaped than those of the latter; there is also a difference in the colouring of the spatules, those of the smaller bird frequently having a tinge of shining green pervading them, while the colour of those of *S. Underwoodi* is steel-blue; the *S. melananthera* has also a broad black band on the throat, while the corresponding mark in *S. Underwoodi* is smaller and often almost obsolete. The greatest difference, however, occurs in the females of the two species; the breast and centre of the abdomen of that sex being pure white in *S. melananthera*, while the same parts in the female of *S. Underwoodi* are spangled with green.

All the specimens of *S. melananthera* I have seen are from Ecuador, whence they have been sent by Professor Jameson and Mr. Fraser.

Sir William Jardine, when first describing this species in his "Contributions to Ornithology for 1851," says, "The last post from Quito brought us some Humming-birds which were of great interest; among them was one belonging to the subgroup which has been called *Spathura*, and of which the beautiful species *S. Underwoodii*, with its white boots and racket-tail, has been considered typical. This species, figured in the only Number yet published of Mr. Gould's Monograph, is found in the neighbourhood of Santa Fé de Bogota, and in Galipan, between La Guayra and the Caraccas, at an elevation of from 5000 to 9000 feet. Of the specimen lately received, Professor Jameson writes (considering it to be *S. Underwoodii*),—'I am not aware of its being hitherto met with to the south of the equator.' Along with a true *S. Underwoodii*, Mr. Gould had enclosed a female of a *Spathura* with an unspotted breast, with an opinion that the male of the latter would prove distinct; and on comparing the Quitian birds with these and the figure and description in the Monograph, there appears to be a considerable difference. The proportions and tints vary, and the large space of black on the chin and maxilla is very marked. We are not aware whether M. Bourcier has noticed it, and an examination of more specimens must decide whether it be only a local variety; but meanwhile we have applied the above specific name quite provisionally, until the point as to species is cleared up, and give a description from the specimen before us."

"Male, above green, bronzed on the upper tail-coverts; wings purplish black; tail bronzy green, the long exterior feathers black, the spatulate ends velvet-black, with rich green reflexions below; chin and maxilla velvet-black; centre of the throat and stretching round below the auriculars, with the sides of the neck, emerald-green, forming a brilliant gorget; belly and vent green; boots large and pure white.

"Female, above green, much bronzed on the whole of the crown; tail slightly forked; the outer feather tipped with white, the second with only a slight indication of it; below pure white; flanks green, with a few spots on the sides of the belly; under tail-coverts pale sienna-brown."

The figures represent both sexes of the size of life. The plant is the *Sobralia fragrans*.

SPATHURA PERUANA.

J. Gould and H.C. Richter del et lith.

Hullmandel & Walton Imp.

SPATHURA PERUANA, *Gould.*

Peruvian Racket-tail.

Spathura Peruana, Gould in Proc. of Zool. Soc. 1849.

This fine species is at present so rare that few examples have come under my notice; of these, one brought from Peru by Dr. Tschudi is in the Museum at Neufchatel, and another, procured at Moyabamba, in the same country, by the late Mr. Mathews, graces the Loddigesian collection at Hackney. Dr. Tschudi informs me that he procured three examples of this beautiful species during his travels in Peru: the first between the 11th and 12 degrees of south latitude, on the mountain of Moyabamba, where it was fluttering around the flowers of a new species of *Cactus*; the second on the road from Santa Maria de Cruces to Andamarca in the province of Tanja, on the banks of the little river Ancasyacu; and the third at Chilpes on the mountain of Veloe, in the province of Parma, at an elevation of more than 3000 feet: he adds that it is a rare species, and was not even known to the Indian hunters of Moyabamba; upon examining their stomachs he found them to contain the remains of small hymenopterous insects.

The *S. Peruana* differs from the *S. rufocaligata* in the greater length of the lateral tail-feathers and in their terminal spatules being of a more oval shape; the ruffs of red feathers clothing the tarsi are also of a larger size and of a somewhat deeper tint; it is, in fact, a species intermediate in form between *S. rufocaligata* and *S. Underwoodi*.

The male has all the upper and under surface bronzy green; throat and chest rich lustrous metallic green; wings and tail brown, the spatules of the lateral feathers black with green reflexions; ruff clothing the tarsi rufous; bill black; feet yellow.

Total length, 5 inches; bill, $\frac{5}{8}$; wing, $1\frac{3}{4}$; tail, $3\frac{1}{8}$.

The female has the upper surface bronzy green, the green predominating on the two central tail-feathers; lateral tail-feathers brown, the outer one on each side tipped with white, the remainder washed with green at the tip; under surface white, spotted on the throat, sides of the neck and flanks with pale shining green; ruff clothing the tarsi and the under tail-coverts deep buff; bill black; feet yellowish brown.

Total length, $3\frac{1}{4}$ inches; bill, $\frac{5}{8}$; wing, $1\frac{5}{8}$; tail, $1\frac{1}{4}$.

The figures represent three males and a female on a species of *Dalea* from Peru, obligingly lent me by Mr. Cuming.

SPATHURA RUFOCALIGATA.

J. Gould and H^C Richter del. et lith.

Hullmandel & Walton Imp.

SPATHURA RUFOCALIGATA, *Gould.*

Red-booted Racket-tail.

Trochilus (Ocreatus) rufocaligatus, Gould in Proc. of Zool. Soc., Part XIV. p. 86.
——— *Addæ*, Bourc. Rev. Zool. 1846, p. 312.
Mellisuga rufocaligata, Gray and Mitch., Gen. of Birds, *Mellisuga*, sp. 59.

This new Humming-bird was procured in Bolivia by Mr. Bridges, who informed me that he found the species rather numerous at Sandillani in the Yungas of La Paz, but had no opportunity of making himself acquainted with its habits, for a knowledge of which, therefore, we must await the researches of some future traveller: there is little doubt, however, that they will prove to be very similar to those of its near allies, the *Spathura Underwoodi* and *S. Peruana*.

The male has the throat and forepart of the neck luminous metallic green; the plumage of the body bronzy green; wings brown; tarsi clothed with a thick ruff of rusty red feathers; tail brown, the outer feathers prolonged and narrow, and ending in a broad spatulate tip; bill black.

Total length, $4\frac{1}{2}$ inches; bill, $\frac{3}{4}$; wing, $1\frac{3}{4}$; tail, $2\frac{1}{2}$.

The female has the upper surface and two middle tail-feathers bronzy green, the bronzy hue predominating on the head and the green on the tail-feathers; wings purplish brown; lateral tail-feathers dark blackish brown, the outer one on each side tipped with white, the remainder with a wash of bronzy green at their extremities; under surface white, spotted on the throat, the sides of the neck and flanks with light bronzy green; feathers clothing the tarsi and the under tail-coverts deep buff.

Total length, $3\frac{1}{4}$ inches; bill, $\frac{5}{8}$; wing, $1\frac{5}{8}$; tail, $1\frac{1}{4}$.

The figures represent two males and two females of the natural size.

SPATHURA SCISSIURA, *Gould.*

J.Gould and H.C.Richter, del et lith. *Hullmandel & Walton, Imp*

SPATHURA CISSIURA, *Gould.*

Scissor-tailed Racket-tail.

Spathura cissiura, Gould in Proc. of Zool. Soc., part xxi. p. 109.—Athenæum, Nov. 26, 1853.

Every traveller who penetrates the little-known country of Peru brings back with him evidence that much has yet to be learnt respecting its natural productions. The justly celebrated Warszewicz, in one of his hurried journeys through that interesting country, plucked, as it were, from thence two examples of the remarkable bird here represented. These are now in my own collection, and are doubtless male and female; the male, however, is evidently immature; when fully adult, its throat is, in all probability, of a finer and more luminous green. Wait we must for additional specimens, and it may be years to come before these arrive, and a century, perhaps, elapse before more examples of the *T. mirabilis* and other species (of which only single specimens have reached us) are obtained. We just get a glimpse, as it were—and that is all—of the natural productions of this fine country. In the forests to the eastward of the Cordillera, there is much in store for future ornithologists to examine and describe; for my own part, I am grateful for what I have been permitted to see, and for what I have been allowed to perform. Feebly it is done, I admit; yet I have not failed to exert myself to the best of my abilities in the illustration of my favourite branch of science—Ornithology.

Exceedingly curious in form is the tail of this little bird, and I really would give more than a trifle to see a fine adult male. Will not M. Sallé, who has already done so much for science, direct his attention to the exploration of Peru and Bolivia?

The *Spathura cissiura* is most nearly allied to *S. Peruana*, but differs from that, and all the other members of the genus, in having the outer tail-feathers webbed throughout their entire length, and, consequently, the spatulate tips less conspicuous.

General plumage bronzy green; wings purplish brown; four outer tail-feathers purplish steel-black; under surface green, paler on the throat; thighs thickly plumed, and of a reddish buff.

The figures are of the natural size. The plant is the *Echinocactus Leeanus*.

LESBIA GOULDI.

J. Gould, and H.C. Richter, del. et lith.

Hullmandel & Walton, Imp.

LESBIA GOULDI.

Bogota Train-bearer.

Trochilus Gouldii, Lodd. in Proc. of Comm. of Sci. and Corr. of Zool. Soc., part ii. p. 7.

Ornismya sylphia, Less. Rev. Zool. 1840, p. 73.

Mellisuga Gouldii, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga*, sp. 51.

Cynanthus gouldi, Bonap. Consp. Gen. Av., p. 81, *Cynanthus*, sp. 4.—Ib. Rev. et Mag. de Zool. 1854, p. 252.

Lesbia Gouldii, Reichenb. Aufz. der Colibris, p. 8.—Ib. Troch. enumer., p. 5. pl. DCCXII. figs. 4615–4617.

At the scientific meeting of the Zoological Society of London held on the 10th of January, 1832, Mr. Loddiges brought before the notice of the members present, a series of Humming Birds, which he considered to be new to science, one of which—the bird here represented—he was pleased to dedicate to myself, calling it *Trochilus Gouldii* ; subsequently it was characterized by M. Lesson as *Ornismya sylphia*, a name which I would gladly retain, did not the tacit understanding which now prevails among naturalists, that the appellation first given should be the one adopted, preclude me from so doing ; for although fully appreciating the kindness of my late friend, I would rather that a more appropriate designation had been given to it, and regret that the law above referred to will not allow me to employ that of *sylphia*, which would have been singularly applicable, inasmuch as the form of the bird is exceedingly elegant, and its actions, according to report, are light and sylph-like. Although only twenty-five years have elapsed since its first discovery, few birds have become more common, it being literally sent in thousands from that great emporium for Humming-bird collectors, Santa Fé de Bogota, where it ranges over an area, of which the city of Bogota may be considered the centre, of about one thousand miles along the temperate regions of the Andes. In Ecuador and Peru its place appears to be filled by other nearly allied species.

As is the case with all the members of this genus, the sexes of the present species differ considerably both in size and colouring ; the female, as will be seen on reference to the accompanying Plate, being much less splendidly adorned than her mate.

The male has the head green ; back of the neck, back, and wing-coverts golden green ; wings purplish-brown ; rump, upper tail-coverts, and all but the two outer tail-feathers, resplendent grass-green ; two outer tail-feathers dark brown for two-thirds of their length, the apical third glossed with green, increasing in brilliancy to the apex ; throat luminous grass-green ; remainder of the under surface golden green ; bill black ; feet brown.

The female has the whole of the upper surface golden green ; the rump and central tail-feathers of a yellower green than in the male ; and the outer feathers, which are not more than half the length of the corresponding feathers in the male, brown, with the basal two-thirds of the outer web, the shaft and the tip buffy grey ; under surface grey, speckled with bronzy green.

The Plate represents the two sexes of the size of life. The plant is the *Sobralia fragrans*.

LESBIA GRACILIS, *Gould.*

J. Gould & H. C. Richter, del. et lith.

Hullmandel & Walton, imp.

LESBIA GRACILIS, *Gould.*

Graceful Train-bearer.

Trochilus (*Lesbia*) *gracilis*, Gould in Proc. of Zool. Soc., part xiv. p. 86.
Mellisuga gracilis, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga*, sp. 53.
Cynanthus gracilis, Bonap. Consp. Gen. Av., p. 81, *Cynanthus*, sp. 5.
Lesbia gracilis, Reichenb. Auf. der Col., p. 8.—Proc. of Zool. Soc., part xxvi. p. 460.—Sclat. in Proc. of Zool. Soc., part xxviii. pp. 70, 94.

This very elegant little species differs from the *Lesbia Gouldi* in having much narrower tail-feathers, and in the green colouring of the outermost of these feathers being much less extensive; the basal portion of their outer webs is also much lighter, approaching to white: in other respects the two birds are much alike. The native country of this little sylph-like bird is Ecuador, where it appears to be very numerous. It was first brought to Europe by M. Bourcier; examples have since been sent to me by Professor Jameson, and others have been procured by Mr. Fraser, from whose notes we learn that it is found "above Puellaro and Calacali, but at the latter place is not common. It is readily distinguishable from all others by the peculiar loud humming noise produced by the wings, and which is audible at the distance of twenty or thirty yards." He "did not find it near the *pueblo*, but at some height up one of the hills. The gizzards of those examined contained insects. It is difficult to get a sufficient distance from these birds to shoot them, on account of their quickness and uneasiness of motion; they would seldom be seen but for their chirping, and the humming noise produced by their wings."

The female is almost as graceful as the male, the pretty green spotting of the breast contrasting beautifully with the greyish white ground-colour of the under surface.

On looking over my collection, I find a single specimen of this bird, obtained by M. Warszewicz in Peru, which proves that it frequents countries south of the equator, where it doubtless represents the *L. Gouldi*, found in the neighbourhood of Bogota.

The male has the throat beautiful shining metallic green; the remainder of the body golden green; wings brown; outer tail-feathers bronzy brown, the bronze gradually increasing in intensity and becoming a brilliant spot at the tip; basal half of the outer webs buffy white; remaining feathers brown at the base and shining golden green for the remainder of their length; under tail-coverts buff, slightly washed with green; bill black.

The female is similarly coloured on the upper surface, but has a shorter and less brilliantly coloured tail; the under surface is greyish white, thickly spangled with green.

The Plate represents a male and a female, of the natural size. The plant is the *Loasa picta*.

LESBIA NUNA.

J.Gould and H.C.Richter, del. et lith

Hullmandel & Walton, Imp.

LESBIA NUNA.

Nouna-Koali.

Ornismya Nuna, Less. Supp. des Ois.-Mou., p. 169. pl. 35 ?—Ib. Ind. Gen. et Syn. des Ois. du Gen. *Trochilus*, p. xvii ?—Ib. Rev. Zool. 1838, p. 314 ?, and 1839, p. 19 ?

No one point connected with the family of Humming-Birds has been more puzzling to the Trochilidist than the attempt to identify the species intended to be represented by Lesson on the 35th plate of the Supplement to his 'Histoire Naturelle des Oiseaux-Mouches,' and to which he has given the name of *Nouna-Koali*; unfortunately the typical specimen has been, I believe, irrecoverably lost, and, consequently, the matter can never be satisfactorily set at rest. Lesson's figure was evidently taken from a young bird, probably an immature *Cynanthus smaragdinicaudus*; this, at least, is my own impression,—an opinion not participated in by my French coadjutors, since they are inclined to think that M. Lesson's plate represents a true *Lesbia*. M. Bourcier has sent me an example of a bird in a state of plumage which he considers to be that of the adult *Nouna-Koali*, but which I find to be identical with his *Eucharis*. My friend M. Edouard Verreaux has a bird in his collection which he considers to be the *Nuna-Koali*; but this again differs very materially from M. Bourcier's *Eucharis*, and, indeed, from every other known Humming-Bird. In its affinities it is more nearly allied to the *Lesbia Gouldi* than to any other; but it is of much larger size, in which respect it approaches *Eucharis* and *Amaryllis*, but again differs from them in the form of the luminous throat-mark—a rounded gorget of brilliant green, precisely similar to the throat-mark in *Lesbia Gouldi* and *L. gracilis*; the three species form, in fact, one of the three or four small sections into which the fork-tailed Humming-Birds appear to be naturally divided. In one of these sections we have *Phaon* and *Sparganurus*, to which the generic name of *Cometes* has been assigned; in another, *cyanurus* and *smaragdinicaudus*, forming the genus *Cynanthus*; in the third, *Amaryllis* and *Eucharis*, constituting the genus *Lesbia*; and the fourth, for which no generic name has yet been proposed, comprising *gracilis*, *Gouldi*, and *Nuna* (the bird here represented).

With the exception of a female in my own collection (procured in Peru by M. Warszewicz), M. Verreaux's bird, for which I retain the appellation *Nuna*, is the only specimen I have ever seen; like my own, it was, I believe, received from Peru. It is an elegant and highly interesting species; its form graceful in the extreme. I trust that no disaster may befall M. Verreaux's specimen, and that, as the type from which my figure was taken, it will be long and carefully preserved.

With regard to the name of *Nouna-Koali*, M. Lesson says,—"Son nom est celui d'une vierge américaine dont le touchant souvenir restera parmi les amis de la littérature, grâce à la suavité des charmes dont s'est plu à l'embellir la plume de notre ami Ferdinand Denis." See his historical romance entitled 'Ismaël Ben Kaïzar, ou la découverte du Nouveau Monde.'

The male has the crown of the head, back, wing-coverts, sides of the neck, and abdomen dark bronzy green; on the throat a rounded gorget of brilliant metallic grass-green; wings purplish brown; all the tail-feathers dark purplish black at the base, the apical half of all but the two outer ones luminous grass-green; the outer feather on each side washed, on its apical part, with metallic green, which increases in intensity to the apex; these feathers, moreover, are edged with pale brown on the basal half of the outer web.

The female is similarly coloured to the male on the upper surface, but has a shorter and less brilliantly coloured tail; the under surface is white, spangled with brilliant green.

The Plate represents two males and a female, of the natural size. The plant is the *Begonia cinnabarina*.

LESBIA AMARYLLIS.

JGould and HC Richter, del et lith

Hullmandel & Walton, Imp.

LESBIA AMARYLLIS.

Train-bearer.

Trochilus Amaryllis, Bourc. et Muls. Rev. Zool. 1848, p. 273.—Gray and Mitch. Gen. of Birds, vol. iii. Supp. App. 30*a*, App. to p. 103.

Cynanthus amaryllis, Bonap. Consp. Troch. in Rev. et Mag. de Zool. 1854, p. 252.

It must, I think, be apparent to every one who has studied natural history, that in every true genus some one character or set of characters predominates over the rest; and I may remark that in no department of this branch of science is this feature more conspicuous than among birds, where, in addition to some distinctive character being common to all the species of a genus, we frequently find that character carried in one or other of them to an extent far greater than in any of the others. In the genus *Lesbia*, the dominant feature is the great development of the tail-feathers, and it would appear to be carried to the utmost extent in the *Lesbia Amaryllis*, the feathers being very much longer in that species than in any other.

The native country of this singularly graceful bird, as well as of every other member of the genus, is the temperate regions of the Andes, for about ten degrees on each side of the equator. The *Lesbia Amaryllis* may be said to be strictly equatorial, being most abundant in Ecuador; its range, however, extends southward to Peru and northward to Bogota; in all the countries within this area, wherever situations favourable to its existence occur, it is to be found. Professor Jameson states that it frequents the gardens in the city of Quito, and is so familiar a bird that it is well known to every one. Mr. Mark, Her Majesty's Consul at Bogota, tells me that it is equally common in Bogota; that it was a daily visitor in the garden of his house, and was particularly fond of searching the flowers of the scarlet geraniums after a shower; if not frightened, it would then rest itself upon the plants and shrubs close to the window; when poised in the air with outspread tail, the rapid motion of its wings made a loud humming noise.

Like many other members of the family, this bird is very pugnacious, and frequent combats take place between the males whenever one intrudes into the domain of another, the contest being carried on in the air, and the combatants rising, falling, and continuing to fight after the manner described by Mr. Gosse when speaking of *Lampornis Mango*, in his interesting "Birds of Jamaica."

The female differs very considerably from the male both in size and colouring, and in the lesser development of the outer tail-feathers.

Among the numerous specimens sent to this country, young male examples may be found in every state of change from youth to maturity.

The male has the crown of the head, upper surface, wing-coverts, sides of the neck and under surface golden green; on the chin and throat a lengthened patch of brilliant metallic yellowish green; wings purplish brown; tail-feathers dull black, each tipped with rich greenish bronze; basal portion of the under surface of the shafts of the outer feathers brownish white; vent and under tail-coverts buff.

The very old female has the upper surface golden green; tail-feathers shorter than those of the male, and the shaft and external web of the outer one buff for two-thirds of its length from the base; down the centre of the throat a patch of brilliant metallic orange, on each side of which is a double row of brilliant green spots on a white ground; feathers of the chest greyish white with a spot of brilliant green at the tip of each.

In the young males the general colouring resembles that of the adult, but the throat-mark is merely indicated by a few specks of brilliant green on a buffy-grey ground, and the tail-feathers are much less developed.

The figures represent two males and a female on a species of *Passiflora*, of the natural size.

LESBIA EUCHARIS.

J Gould and H C Richter, del. et lith

Hullmandel & Walton Imp

LESBIA EUCHARIS.

Train-bearer.

Trochilus Eucharis, Bourc. Rev. Zool. 1848, p. .
Lesbia Eucharis, Reichenb. Auf. der Col., p. 8.
Cynanthus eucharis, Bonap. Rev. et Mag. de Zool. 1854, p. 252.

It may be thought by some persons that the *Lesbia Eucharis* and *L. Amaryllis* are one and the same species, but a comparison of the two birds will readily prove that such is not the case, and that M. Bourcier's view of the subject in separating them was correct. In the size of their bodies and in the length of their wings the two birds are very much alike; but the tail of the *Amaryllis* far exceeds in length that of *Eucharis*; its colour also is very different, particularly that of the eight middle feathers, these feathers being wholly green on that portion of their apical surface which projects beyond the next in succession, or all that portion of each feather which is not overlapped when the tail is closed. A glance at the figures on the Plates of the two species will at once render this clear to the reader.

The precise country wherein this bird flies has not been satisfactorily ascertained: my own specimens, which, unfortunately, are not very good ones, were obtained by M. Warszewicz, I believe, in Peru; while "New Granada" is written on the label attached to M. Bourcier's bird now before me. I have indeed two males belonging to this gentleman, one of which he believes to be the adult of the *Nouna-Koali*; but it will be seen, on reference to my account of that species, that I do not coincide in that view. The only difference observable in the two specimens is, that a bronzy hue pervades the upper part of the body and those portions of the tail which are green in *Eucharis*; but this difference is, I am sure, entirely due to its having been longer exposed to the light, that is, to a greater period having elapsed since its last moult; with this exception, I find no difference between them, either in the size of the body or the form of the markings, both having the same luminous gular patch that is found in the *Amaryllis*, but very different from the smaller species, the *Nuna*, the *Gouldi*, and the *gracilis*.

My figure of the female is taken from one of the specimens brought by M. Warszewicz, which, it will be seen, very closely resembles the female of *L. Amaryllis*.

The male has the head, upper surface, wing-coverts, sides of the neck, abdomen, and flanks bronzy green; a gorget of luminous green on the throat; wings purplish black; tail deep brownish black, the eight middle tail-feathers largely tipped with green, and the outer one tipped with bronzy green; these feathers moreover have the basal half of their outer webs of a pinky buff; under tail-coverts buff, glossed with bronze; bill black.

The female is similar to the male on the upper surface, but her tail is much shorter and less brilliant, and the apical three-fourths of the basal portion of the web of the outer feather greyish white; under surface buff, spangled with shining green.

The Plate represents the two sexes of the size of life. The plant is the *Tropæolum Smithi*.

CYNANTHUS CYANURUS.

J Gould, & H.C. Richter, del et lith.

Hullmandel & Walton Imp

CYNANTHUS CYANURUS.

Blue-tailed Sylph.

Trochilus cyanurus, Steph. Cont. of Shaw's Gen. Zool., vol. xiv. p. 239.
Ornismya Kingii, Less. Les Troch., p. 107. pl. 38.

The accompanying Plate offers but a feeble representation of a Humming-Bird, the beauty and elegance of which are in just accordance with the luxuriance of the glorious country it inhabits, namely, the temperate regions of the Andes, from the Equator northwards to the Isthmus of Panama, or, more correctly speaking, the countries of Ecuador, New Grenada and Venezuela. The vast primæval forests, both of the Eastern and Western sides of the Great Cordillera in these countries, appear to be alike visited by it; and it is also spread over the less elevated hills which jut out from the main range and extend eastward to the Caraccas; it lives at an elevation ranging between five and ten thousand feet, among regions the botany of which is of the richest and most varied character, and where insect life is ever abundant. The single specimen which graced the Bullock's Museum, and which is now in Mr. Leadbeater's collection, was for many years the only one known, and it was not until within the last fifteen years, or from about 1836, that other examples were sent to Europe; since then, however, it has become common, and no general collection is destitute of specimens.

It is much to be regretted that considerable confusion exists with respect to the synonymy of this beautiful bird. I have carefully examined the figure and description of the Long Green-tailed Humming-Bird of the accurate George Edwards, to which the specific name of *forficatus* has been applied by many writers, and which is usually considered as identical with the present bird, but I can come to no other conclusion than that they are quite distinct. Edwards, in his description, states that "the crown of the head is blue, or else the bird is mostly green, . . . and the lower belly and coverts under the tail are white:" no admeasurements are given, but the figure is said to be of the "natural bigness," and is coloured in strict accordance with the description. He adds, that the bird was brought from Jamaica by Captain Chandler, of Stepney, who permitted him to make a drawing of it. In my opinion Edwards's figure has no reference to the present species in either of its states of plumage, but would appear to represent a species of which no other example has yet been seen, and which we may hope to see rediscovered whenever its proper locality may be again visited. There are districts of sufficient extent in the island of Jamaica yet unexplored by the scientific naturalist, whereof it may be an unknown denizen, although we should rather infer that, like its allies, it is a continental and not an island species. Entertaining the opinion here expressed, I feel obliged to reject the synonyms usually applied to the present bird, and to adopt that of *cyanurus* given to it by Mr. Stephens, and which so correctly expresses the trivial name of Blue-tail by which it is generally known, and which has a priority of two years over that of *Kingii* of Lesson. Some ornithologists may consider that the term *cyanurus* ought also to have been rejected, because it had been applied to two other members of this family; to which I reply, that one of the birds referred to does not, I believe, belong to the *Trochilidæ* at all, and the other is a species which I cannot satisfactorily identify, but which, at all events, is generically distinct from the present form. Some persons are of opinion that the Blue-tailed Humming-Birds, sent so plentifully from Bogota, are referable to more than one species; I have not, however, been able to determine this point satisfactorily; almost the only difference consisting in the colouring of the tail, some having the apical half of all the feathers of a uniform blue, but more generally the eight central feathers are broadly margined with bright metallic green; in this latter state of plumage I have figured the bird: another variety occurs in Venezuela, in which the outer feathers are blue, except at the tip, where they are green like the intermediate ones: these Venezuelan specimens, when fully adult, also have the basal half of their outer feathers more dilated, and their apical half more pointed than in those from other districts, and, moreover, are nearly destitute of the black line which bounds the brilliant green of the crown. In some examples the blue gorget is wanting; this I believe to be due to immaturity rather than to any other cause; it is possible that they may be very old females, which having passed the period of breeding, have assumed the plumage of the male, except in this point; but I have no positive evidence that such is the case: the breeding females, or the specimens sent to us as the female of this bird, differ so considerably, as to induce the belief that they belong to some other species, had we not evidence which proves the contrary: the young males of the year, or of one or two years old, are also very different from either; the tail in these youthful birds being much shorter and far less luminous than in the adult; the green of the crown, though much brighter than the green of the body, is far less brilliant than it is in the mature state, and the gorget of blue is always wanting; a white mark also occurs down the centre of the back in some individuals.

Mr. Dyson, and all who have seen this bird in a state of nature, agree in stating, that, as its general form and forked tail would indicate, its flight is most rapid and powerful.

Professor Jameson of Quito, in one of his Letters to Sir William Jardine, Bart., mentions that it feeds on the flowers of the *Sedum Quitense*, which plant covers the walls and house-tops of Quito.

The adult male has the crown of the head rich shining yellowish metallic green; on the throat a small gorget of beautiful shining purplish blue; plumage of the body bronzy green, becoming of a browner hue on the under surface; wing-coverts and tips of the spurious wing-feathers shining green; the remainder of the wings purple brown; two central tail-feathers rich shining metallic green; the three next on each side black at the base, changing into rich blue near their apices, and broadly margined and tipped with rich shining metallic green, shaded in some positions with blue; basal half of the outer feather on each side black, their apical halves rich deep metallic purplish blue; a few white feathers stretch across the lower part of the abdomen; under tail-coverts green; above and behind the eye a very minute mark of white; bill black; feet dark brown.

The young male resembles the adult, but has the whole of the colouring, especially the mark on the head, far less brilliant; is entirely destitute of the gorget on the throat, and has the lateral tail-feathers much less developed.

The female has the crown mark of green, but much less brilliant than in the male; the upper surface and wing-coverts rich golden bronze; a small mark of white behind the eye, and a small streak of the same hue beneath it; under surface rufous washed with bronzy green on the flanks; central tail-feathers shining green, changing to purple towards the tip; lateral feathers black, glossed with deep blue and largely tipped with white; all the tail-feathers purplish black on their under surface; throat greyish white, with a round spot of dull green near the tip of each feather.

The Plate represents an adult male, a young male, and a female of the natural size.

The plant introduced on the plate is a *Nymphæa*, of the country inhabited by the bird, and of which living specimens may be seen in the Royal Gardens at Kew: the figure is copied, with some alterations, from that published in Curtis's Botanical Magazine, a work which should be in the possession of every lover of flowers, replete as it is with objects of the greatest beauty and interest.

CYNANTHUS SMARAGDICAUDUS. *Gould*

J. Gould & H C Richter, del et lith

Hullmandel & Walton, Imp

CYNANTHUS SMARAGDICAUDUS, *Gould.*

Green-tailed Sylph.

Trochilus (*Lesbia*) *smaragdinus*, Gould in Proc. of Zool. Soc., Part XIV. p. 85.
Trochilus Mocoa, De Latt. et Bourc. in Rev. Zool., 1846, p. 311.
Mellisuga smaragdinis, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga*, sp. 52.
Cynanthus mocoa, Bonap. Consp. Gen. Av., p. 81, *Cynanthus*, sp. 3.

In general structure this beautiful species is most closely allied to the Blue-tailed Sylph (*Cynanthus cyanurus*); it is, however, of rather smaller size, and may at all times be distinguished by its resplendent metallic green tail: unfortunately nothing whatever is known of its habits and economy, but they are doubtless as similar to those of its ally, as the two birds are in form and structure.

The first specimen that came under my own observation, was received more than thirty years ago direct from Popayan; M. De Lattre killed it at Mocoa, "an ancient capital of the Indians, the environs of which are inundated for five or six months of the year, which is situated on the borders of the Anthropophagous nations, the Huitotos and Mesalles, and rarely visited by Europeans." Mr. Bridges found it in tolerable abundance in Bolivia, whence he brought numerous examples to this country. I regret to say that this is all that is at present known respecting it; but from this meagre information I infer that the true habitat of the species lies to the southward of the equator; its range probably extending over the whole of the eastern dip of the Peruvian Andes, a portion of the country but rarely explored by naturalists.

In retaining my own name of *smaragdicaudus* for this species, I am not actuated by any desire to displace that of *Mocoa* given to it by M. Bourcier, who has contributed so largely to our knowledge of this lovely group of birds; but have simply given it the preference because it so justly expresses the trivial name of Green-tail commonly applied to it: I may remark, moreover, that I believe it has slightly the priority in the date of publication.

The changes of plumage from youth to maturity, and the difference between the sexes, are precisely similar to those of the Blue-tail. The young males, as might be expected, assume the green tint on the tail at a very early period, but are far less brilliant than the adult; in this state of plumage, specimens were brought both by M. De Lattre and Mr. Bridges: in many of them a white mark occurred down the centre of the back, similar to that observable in examples of the Blue-tail of the same age, but in every instance the gorget of blue was absent.

The male has the crown of the head rich shining yellowish metallic green; on the throat a small gorget of beautiful shining purplish blue; plumage of the body bronzy green, becoming of a browner hue on the under surface; wing-coverts and tips of the spurious wing-feathers shining green; the remainder of the wings purple-brown; tail rich shining metallic green, with the exception of the basal half of the feather, which is black; a few white feathers stretch across the abdomen; under tail-coverts green; above and behind the eye a very minute mark of white.

The young male resembles the adult, but has the whole of the colouring, especially that of the crown, far less brilliant; is entirely destitute of the gorget on the throat, and has the lateral tail-feathers much less developed.

The female has the upper surface and wing-coverts golden bronze, a small mark of white behind the eye, and a small streak of the same hue beneath it; the under surface rufous, marked with bronzy green on the flanks; central tail-feathers shining green, changing to purple towards the tip; lateral feathers black glossed with deep blue, and tipped with white; all the tail-feathers purplish black on their under surface; throat greyish white, with a round spot of dull green near the tip of each feather.

The Plate represents two males and a female of the natural size on one of the common plants of Peru.

COMETES SPARGANURUS.

J. Gould, and H. C. Richter, del et. lith.

Hullmandel & Walton, Imp.

COMETES SPARGANURUS.

The Sappho Comet.

Trochilus sparganurus, Shaw, Gen. Zool., vol. viii. p. 291. pl. 39.—Ib. Steph. Cont., vol. xiv. p. 238.—Jard. Nat. Lib. Humming-Birds, vol. ii. p. 112. pl. 23.
Fire-tailed Humming-Bird, Lath. Gen. Hist., vol. iv. p. 291.
Trochilus chrysurus, Cuv. Règn. Anim., tom. i. p. 236.
——— *radiosus*, Temm. in Mus. Leyden.
Ornismya Sappho, Less. Hist. Nat. des Ois. Mou., p. 105. pl. 27 male, 28 female.—Ib. Less. Troch., p. 131. pl. 49, adult male.—Ib. Man. d'Orn., tom. ii. p. 83.
Cometes Sappho, Gould in Proc. of Zool. Soc., part xv. p. 31.
——— *sparganurus*, Bonap. Consp. Gen. Av., p. 81, *Cometes*, sp. 1.
Mellisuga sparganura, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga*, sp. 46.
Orthorhynchus chrysurus, D'Orb. et Lafr. Syn., p. 26.
Trochilus chrysochloris, Vieill. Ois. dor., tom. iii. ined. p. 8.

Both Wilson and Gosse have given to the world, fresh from nature, the most charming and poetic descriptions of the habits of the *Trochilus colubris* and *T. Polytmus*; and had either of these elegant writers had an opportunity of observing the present species in its native country, we should doubtless have been favoured with an account of its habits and economy in the same masterly language; in the absence of which, and of any opportunity of observing the bird in a state of nature, I cannot do more than furnish all the information I have been able to acquire respecting it. To be, however, the pioneer in directing the attention of those who may hereafter fill up the voids in the history of this lovely bird, will be something to revert to, at all times, with satisfaction. "No combination of gorgeous colouring," says Dr. Tschudi, "can exceed that which is presented in the plumage of the Golden-tailed Humming-Bird, which appears and disappears like a dazzling flash of coloured light, and which haunts the warm primæval forests, but is still more frequently found in the pure atmosphere of the ceja-girded Montañas."

We are continually receiving fresh evidence that the richest botanical and zoological districts of South America are those to the eastward of the Peruvian and Bolivian Andes; the great primæval forests of which are as yet a *terra incognita*, and their zoological products equally unknown. It is only the outskirts of this fine country that have yet been partially investigated.

I have ascertained from unquestionable evidence, that this fine species is very generally distributed over the great country of Bolivia, to the westward of the Cordillera, from La Paz to Chuquesaca, and that its range extends at some seasons as far to the southward as Mendoza. It is strictly migratory, and it is in the summer seasons alone that it is to be found in the countries above mentioned. The eastern parts of Peru are doubtless its head quarters in winter; and it is probable that at this season it may even range as far to the northward as the Caracas, as travellers who have visited that part of the country speak of a large Flame-tailed Humming-Bird as an occasional visitant, which must either be this bird, *Cometes Phaon*, or a new species. Mr. Bridges collected numerous examples of both sexes, during his visit to the valley of Cochabamba, where he found its favourite food was obtained from the flowers of the scarlet *Salvia*; "the males carrying on a continual war with each other, and each bird appearing to possess a separate territory."

One of the principal summer haunts, however, of this bird is Chuquesaca, in the interior of Bolivia, "where," says M. Bourcier, "it appears when the fruit trees of the country are in flower, and is met with in the greatest abundance among the flowers of the *Capuli*, a kind of cherry-tree: it also visits the orchards and the gardens of the city, during the blossoming of the apple-trees; it is by no means shy, and the males, which are constantly at war, chase each other with the utmost fury, uttering at the same time a sharp cry whenever one bird invades another's territory." I am indebted to Mr. Bonelli, who made a lengthened residence in that part of the country, for the following notes respecting it.

"It arrives in the environs of Chuquesaqua in the months of September and October, and takes up its residence in the shrubberies of the city and in the gardens of the Indian cottages; the hill sides of the neighbouring country, clothed with indigenous trees and shrubs, also afford it a fit place of abode; whence it descends several times a day to the cultivated plains below, particularly to the fields of maize, pulse and

other leguminous plants; the rich flowers of the larger Cacti are also frequently visited, as they afford it a constant and abundant supply of insect food.

"Soon after their arrival the task of incubation is commenced; and when the summer is over, both the old and young, actuated as it were by the same impulse, wend their way northward, to return again when the spring has once more gladdened the earth.

"The nest is a somewhat loose structure, outwardly composed of interlaced vegetable fibres, slight twigs, moss, &c., and frequently lined with soft hair like that of the Viscacha (*Lagostomus trichodactylus*), with the lower portion prolonged considerably below the bottom of the cup-shaped interior, which is about an inch and a half in diameter, and an inch in depth; the total length of the nest averaging from two and a half to three inches. The nest is placed in situations similar to those selected for the like purpose by the Spotted Flycatcher (*Musicapa grisola*), namely, against the sides of the gully, supported or entirely sustained by any hanging root or twig that may be best adapted to afford it security; the part of the nest next the wall is much thicker, but of a looser texture than the circular portion of the true structure. The eggs are two in number, oblong in form, of a pure white, and about half an inch in length, by about five-sixteenths of an inch in breadth.

"The difficulty of shooting these birds is inconceivably great, from the extraordinary turns and evolutions they make when on the wing, at one instant darting headlong into a flower, at the next describing a circle in the air with such rapidity, that the eye, unable to follow the movement, loses sight of it until it again returns to the flowers which first attracted its attention."

Considerable difficulty attends the collection of specimens, the rapidity with which decomposition takes place in so warm a climate frequently rendering the examples procured by the hunters utterly useless, by the time they return home: to obviate this difficulty, Mr. Bonelli, having observed that the bird frequently dashed far into the cups of the larger flowers, directed some of the Indian lads to touch the interiors of several of them with a viscid substance like bird-lime; this was accordingly done, with the contemplated result; and by this means he was enabled to obtain as many examples as he wished, and to skin them immediately after they were killed. As if these difficulties were not sufficient, that of their transmission was equally great.

"I particularly wish to impress upon your mind," says Mr. Bonelli, "the difficulty, at present without remedy, of establishing a regular communication from this isolated capital of Bolivia, imbedded as it is in a sea of mountains, whence we are unable to forward any package, however small, for months together; and whence the post is conducted by a single Indian on foot."

The sexes differ very considerably in colour, and a considerable variation in colour appears to exist in the young birds before they arrive at maturity: very young individuals of both sexes have their throats beautifully speckled with green on a buff ground, while in others the throat is of a uniform buffy hue, the green spots being entirely absent; at a more advanced age the females have the throat considerably ornamented with metallic green, but never to the same extent as in the male: the young males may be always distinguished from the females by their much larger size; but, like that sex, they have the external web and the tip of the outer tail-feathers buffy white.

The male has the head, neck, upper part of the back, wing-coverts, sides of the neck and under surface shining green, washed on the ear-coverts, sides of the neck and wing-coverts with bronze; throat metallic green; wings purple-brown; back reddish crimson; tail-feathers brown at the base, and rich glittering fiery orange-red for the remainder of their length, with the exception of their tips, which are deep velvety brownish black; under tail-coverts brown, with purplish red centres; bill and feet black.

The young males have the crown of the head greenish brown; the back mottled with green and reddish crimson; the tail about two-thirds the length of that of the adult, of a more crimson hue, the velvet-like tips indistinct, and the external feather white on its outer and brown on its inner web; the throat either speckled with green on a buff ground, or white spotted with green, and with a few brilliant feathers in the centre.

The female resembles the young male, but has the lower part of the back only of a crimson hue, and in some instances no trace of the luminous colouring on the throat.

The figures represent two males and a female of the natural size. The plant is the *Cantua buxifolia*.

COMETES PHAON. *Gould.*

COMETES PHAON, *Gould.*

The Phaon Comet.

Cometes Phaon, Gould in Proc. of Zool. Soc., part xv. p. 31.—Bonap. Consp. Gen. Av., p. 81, *Cometes*, sp. 2.

Mellisuga Phaon, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga*, sp. 47.

The few lines given as an introduction to my account of *Cometes sparganurus* applies in an equal degree to this rare and lovely species, which may safely dispute for the palm of beauty with its near ally. In classic lore Phaon is said to have been tenderly loved by Sappho, and here certainly is an object so beautiful as to afford a sufficient excuse for the most frenzied passion; but so tender a feeling would seem never to enter into the breasts of Humming-Birds, their general conduct appearing to be actuated by the Furies rather than the Loves, engaged as they are in one continuous strife with each other; and we must regret, therefore, that names conveying such tender ideas as those of Sappho and Phaon should have been given to the preceding and present species.

The true habitat of this bird appears to be Peru and Bolivia, but it does not go so far to the eastward or southward as the *C. sparganurus*. Mr. Bonelli, who accompanied the Hon. Frederick Bruce in his journeys through South America, informs me that in the Great Table Land of the Cordillera are numerous ravines called *Quebrados*, the almost perpendicular sides of which, varying from a hundred to two hundred feet in depth, are overgrown with multitudinous species of plants, with which perhaps the botanist is but little acquainted: here, while a cold atmosphere pervades the adjacent high plains, a genial heat is constantly maintained suitable for the existence of this lovely tribe of birds; and accordingly it is to situations such as these that this species resorts, on its arrival from the northward, at the approach of the rainy season, or the months of August and September, which may be regarded as corresponding with our spring; and there it is that it nidifies and rears its young.

As the birds more frequently tenant the middle portion of the gully-sides, Mr. Bonelli was only able to obtain specimens with the gun, by firing at them upwards from the bottom of the gully, or downwards from the precipitous edge.

"I have seldom," says Mr. Bonelli, "seen it in the vicinity of La Paz, though the two specimens forwarded are from that locality. Day after day have I watched one of these rovers, which, without fail, visited at four o'clock a flowering bed of beautiful crimson cactus, hovered for an instant at the verge of its invigorating sweets, then darted aloft into the heavens and vanished from sight, or fluttered in its restlessness to every point of the compass in the space of a few seconds."

Its nidification, the form and the structure of its nest, and the situations in which it is placed against the sides of the gullies, is precisely similar to that of *C. sparganurus*. Like that bird also, it is a migratory species, visiting these comparatively southern climes during summer, and retiring northwards towards the Equator on the approach of winter.

The present is a larger species in all its admeasurements than *C. sparganurus*, and moreover differs in having a longer and more curved bill, and in having the tail of a crimson hue instead of orange-red.

The male has the head, neck, wing-coverts and under surface brownish green; back, upper tail-coverts and tail rich deep lustrous crimson, with the bases of the tail-feathers blackish brown, and their tips deep velvety black; wings purplish brown; throat rich lustrous metallic green.

The differences between the sexes are precisely similar to those observable in *C. sparganurus*, except that in this species the central tail-feathers are of the same colour as those of the male.

The Plate represents two males and a female of the natural size. The plant is copied from a beautiful drawing sent to me by Mr. Reeves. It is a *Bilbergia*, probably undescribed, as I have not been able to find it named.

COMETES? GLYCERIA., *Gould*

J. Gould and H. C. Richter del et lith

Hullmandel & Walton Imp

COMETES? GLYCERIA, *Gould.*

Purple-tailed Comet.

Cometes Mossai, Gould, in Athenæum, Sept. 24, 1853.—Ib. Report of Brit. Assoc. 1853, p. 68.
Lesbia glyceria, Bonap. Rev. et Mag. de Zool. 1854, p. 252.

During the many years that I have given attention to the Trochilidæ, I have not met with a bird which has caused me more thought, and I may say perplexity, than the one represented on the accompanying Plate. In point of affinity it is intimately allied to the members of the genera *Lesbia*, *Cometes* and *Cynanthus*, partaking as it does, either in form or colouring, of characters pertaining to each of those genera. Sometimes it has occurred to me that it might be a hybrid between either two of them, but I am perfectly at a loss to say which two species would be likely to produce such a cross. Such an idea has entered my mind, but when I have again and again reconsidered the matter, it has appeared to me that it is a distinct species, and that it may ultimately prove to be the female or young male of some gorgeous bird with which we are at present unacquainted. The only example known, and which is in my own collection, was procured by M. Mossa, near Popayan in Columbia, and by him sent to M. Parzudaki of Paris, from whom I obtained it.

I regret to find that some confusion exists with regard to the specific name of this fine bird. Aware of its interest in a scientific point of view, I exhibited the specimen to the Natural History Section of the British Association for the Advancement of Science, at their meeting in Hull in 1853, and suggested the name of *Mossai* as its specific appellation; but in an after-conversation, my friend the late Prince Charles Lucien Bonaparte advised me to give it the name of *Glyceria* as being a more appropriate name for so beautiful a bird, and this name having appeared in the Prince's and other lists of the family prior to the publication of the British Association Report, it is the one which must be adopted. M. Mossa being thus deprived of the compliment I had intended him, I beg here to testify to the value of his discovery, and to record my sense of M. Parzudaki's kindness in giving me the first offer of so fine a bird.

On the tip of the hind-claw, I find a hard, agglutinated, wax-like mass which is irremoveable; as I have seen nothing like it in any other member of the family, I have thought it only right to mention it.

Head, back of the neck, wing-coverts, back and tail-coverts deep shining green; wings purplish brown; chin and throat metallic light olive-green; sides of neck and under surface buff, with a spot of deep shining green on the tip of each feather; tail dark reddish purple, passing into deep bluish green at the tip, except on the outer feathers, where the hue is so faint as to be scarcely perceptible; the outer feathers also have the basal three-fourths of the shafts and the outer webs buffy white, the base of the shaft paler than the web; basal three-fourths of the shaft of the next feather also buffy white; under tail-coverts buff, with a brown mark in the centre near the tip.

The figures are of the natural size. The plant is the *Erythrochiton Brasiliense.*

COMETES ? CAROLI.

J. Gould and H.C. Richter, del et lith.

Hullmandel & Walton, Imp.

COMETES? CAROLI.

Charles's Comet.

Trochilus Caroli, Bourc. in Proc. of Zool. Soc., part xv. p. 48.—Ib. Rev. Zool. 1847, p. 260.
Hylocharis Caroli, Gray and Mitch. Gen. of Birds, vol. i. p. 115, *Hylocharis*, sp. 44.
——— *Caroli*, Bonap. Consp. Gen. Av., tom. i. p. 74, *Hylocharis*, sp. 9.
Calliphlox Caroli, Reich. Auf. der Col., p. 12.—Ib. Troch. Enum., p. 10.
Avocettinus carolus, Bonap. Rev. et Mag. de Zool. 1854, p. 256.

If ever a Humming-Bird perplexed the mind of the Trochilidist, it is the species figured on the accompanying Plate, inasmuch as it presents the colouring of a male with the form and contour of a female; of its history unfortunately we know nothing; and as all the specimens I have seen are alike, we have no means of determining if there exist any difference in the outward appearance of the sexes of this anomalous bird. It has frequently struck me that all these specimens, one or two of which are in the Loddigesian collection, are merely females of some splendid species of which we have not yet seen the male. If this supposition should ultimately prove to be correct, there still remains to be discovered a bird pertaining to this family of the greatest beauty and interest. Would that some enterprising collector might visit that little-known country Peru, and clear up the mystery which has ever hung over this subject! By dissection alone can it be determined whether the birds figured on the opposite Plate are males or females.

Crown, wing-coverts, and upper surface dull greenish bronze, becoming of a greener cast on the lower part of the back and upper tail-coverts; wings purplish brown; four middle tail-feathers bronzy green, the remainder black with violet reflexions, the outer one with a stripe of dull or buffy white along the apical portion of the outer web; behind the eye a small spot of white, and a small streak of buff from the angle of the mouth; throat red; under surface pale bronzy green, each feather slightly fringed with grey; on each flank near the back a tuft of white; vent and under tail-coverts buffy white, with a streak of brown down the centre of each feather; bill black.

Some difference appears to occur in the colouring of the throat, that part being much more scarlet in one of the specimens than in the others.

The figures are of the size of life. The plant is the *Govenia utriculata*.

PTEROPHANES TEMMINCKI

J. Gould and H.C. Richter del. et lith.

Hullmandel

PTEROPHANES TEMMINCKI.

Temminck's Sapphire-wing.

Ornismya Temminckii, Boiss. Rev. Zool. 1839, p. 354.—Mag. de Zool. 1840, Ois. pl. 14.
Trochilus cyanopterus, Lodd. MS.
Mellisuga Temminckii, Gray and Mitch. Gen. of Birds, *Mellisuga*, sp. 10.

This is perhaps without exception one of the finest species of the family yet discovered; it has been named after the Father of living ornithologists, M. Temminck, and is in every way worthy of bearing so distinguished a name; the brilliant colouring of its wings renders it conspicuously different from all other known species. The more elevated regions of the Cordilleras of Columbia constitute its native habitat, and numerous are the specimens that have of late years been sent from Bogota. I have several examples in my collection which were procured by M. De Lattre, in the neighbourhood of Pasto: as the sexes of the specimens obtained by this gentleman were ascertained by dissection, I have been enabled to figure with undoubted certainty the adults of both sexes, as well as the young of this magnificent bird, the lower figure in the Plate representing the adult male, the middle one the female, and the upper one the young.

The adult male has all the upper surface and the lesser wing-coverts deep grass-green, becoming lighter on the rump; a small spot of white immediately behind the eye; under surface dark luminous grass-green; tail glossy olive-green; wings shining deep blue, showing conspicuously both on the upper and under surface; all the feathers margined, and the primaries largely tipped with dull brownish black; bill black; feet brownish yellow.

Total length, $6\frac{3}{4}$ inches; bill, $2\frac{1}{2}$; wing, $4\frac{1}{2}$; tail, 3; tarsus, $\frac{5}{16}$.

The female, with the exception of the throat which is brown, has the body similar in colour to that of the male, but less brilliant; tail glossy olive-green, except the outer feather on each side, which is brown with an indistinct lighter mark down the outer web; wings purplish brown, except the spurious wing and under part of the shoulder which is blue; bill black; feet brownish yellow.

Total length, $6\frac{1}{2}$ inches; bill, $2\frac{3}{8}$; wing, $4\frac{1}{2}$; tail, $2\frac{3}{4}$; tarsus, $\frac{5}{16}$.

The young of both sexes has the crown of the head brown; the upper surface, flanks and under tail-coverts green; wings purplish brown, except the shoulders, which both above and beneath are blue; four middle tail-feathers green; three next on each side blackish brown, with green reflexions on the shafts; the outer feather on each side blackish brown, with a broad stripe of greyish white down the centre; the shaft at the base pure white; throat, chest and centre of the abdomen deep reddish buff; bill and feet as in the adult male, but of a browner hue.

The figures represent a male, a female, and a young bird, of the natural size, on the *Tacsonia mollissima*, which beautiful plant is indigenous to the tropics of New Grenada, growing at a height of nine to ten thousand feet above the level of the sea, and which occupies an extensive geographical range at the elevations above-mentioned. Humboldt found it about Santa Fé de Bogota, and Mr. Lobb in the woods near Quito: my figure and the above particulars respecting this plant are taken from Curtis's "Botanical Magazine," vol. i. Third Series, Tab. 4187.

AGLEACTIS CUPREIPENNIS.

J Gould and H C Richter del et lith *Hullmandel & Walton, Imp*

AGLÆACTIS CUPRIPENNIS.

Shining Sun-beam.

Trochilus cupripennis, Bourc. et Muls. Rev. Zool. 1843, p. 71.—Ann. de la Soc. Sci. de Lyons, 1843, p. 46.

Mellisuga cupripennis, Gray and Mitch. Gen. of Birds, vol. i. p. 112, *Mellisuga,* sp. 25, & vol. iii. App. p. 5. App. to p. 112.

Aglæactis cupripennis, Bonap. Consp. Gen. Av., p. 73, *Aglæactis,* sp. 1.—Reichenb. Aufz. der Colibris, p. 9.

——— *cupreipennis,* Bonap. Rev. et Mag. de Zool. 1854, p. 253.

Helianthea cupripennis, Reichenb. Troch. enumer., p. 6. pl. DCCXXXVII. figs. 4689, 4690.

Undoubtedly the greatest living naturalist of the age is Baron Humboldt: in calling this eminent man a naturalist, let it not be supposed that I wish in any way to detract from his other even higher qualifications of a geognosist, a linguist, and a clear-sighted politician; but to the appellation of a great naturalist he is clearly entitled by virtue of his "Aspects of Nature,"—a work which will live long after this Nestor of science has quitted the world about which he has so ably written. Now it so happens, that those parts of the vast Andean ranges so prolific in beautiful Humming Birds, form the theme of the work above alluded to, and the subject of many passages in his "Personal Narrative" and his "Cosmos." Humboldt could not, therefore, have failed to observe the bird here represented, as well as many other equally rare and beautiful species; yet, strange to say, not one was collected by him, nor for nearly thirty years after his return were Trochilidists aware of the existence of these lovely Andean birds. Humboldt was the scientific pioneer who opened up these fine regions, but, his mind being attracted to higher objects, he did not direct his attention to the birds, though he must have seen them. The path once trodden, and the way to these vast ranges of mountains shown, collectors were soon upon the track and reaped a rich harvest in every department of natural history, but in none more than in ornithology. The native countries of this fine species are Columbia, Ecuador, and Peru, particularly their temperate regions, where civilized man is naturally tempted to roam, and where the bird, from its large size and glittering colour, must be an object of great attraction and interest. Although but a few years have elapsed since its discovery, it has now become very common, and is to be found in every collection. It has always been a great favourite with myself, and doubtless its light brown colouring and the lovely hues of its glittering back have rendered it equally charming to others.

It forms a typical example of the genus *Aglæactis*, the members of which are all remarkable for the lengthened plumes which spring from the chest, and for the rich hues which adorn the back not being perceptible until the bird is viewed from behind, or reversely to the direction of the feathers.

The sexes are very similar in general appearance, but the female is at once distinguished by the entire absence of the fine colours on the back, which form so conspicuous a feature in the opposite sex.

The Trochilidæ are known to evince a decided partiality for the flowers of certain trees and shrubs; they do not, however, confine themselves to these exclusively, but occasionally pay their devoirs to any that may be in bloom: in this way the various species of *Cactus*, as well as other plants of more humble pretensions, are visited by them: but it must not be concluded, that because I have figured this species on the *Cereus MacDonaldiæ*, it is more frequently resorted to than any of the numerous other fine flowers which occur in its native wilds; it is more likely that it is only one of those which it occasionally visits.

The male has the head and nape, and the back when viewed in the direction of the feathers, of a velvety

blackish brown; when viewed in the reverse direction, the centre of the back appears of a luminous purplish crimson, changing into a more coppery hue on the lower part of the back, and into grass-green on the rump; wings light purplish brown, except the outer web and shaft of the external feather, for which the basal three-fourths of their length are bright rufous; two centre tail-feathers rufous at the base, bronze for the remainder of their length; the lateral tail-feathers rufous, broadly margined externally and tipped with bronze; line over the eye, all the under surface of the body, under surface of the wings, thighs, and under tail-coverts dark rufous, with the exception of a few feathers depending from the lower part of the chest, which are pale buff; bill blackish brown, apparently flesh-coloured at the base of the lower mandible; feet purplish brown. In some specimens the throat is much clouded with dark brown; and I may remark, that specimens from Peru are generally somewhat smaller than those from Ecuador and Columbia.

The female is very similar, but is without the luminous colouring on the back.

The Plate represents two males and a female of the natural size.

AGLÆACTIS CASTELNEAUI.

J. Gould and H. C. Richter, del. et lith.

Hullmandel & Walton, Imp.

AGLÆACTIS CASTELNAUI.

Castelnau's Sunbeam.

Trochilus Castelnaudii, Bourc. et Muls. Rev. Zool. 1848, p. 270.
——— *Castelnaui,* Gray and Mitch. Gen. of Birds, vol. iii., Supp. App. p. 30*a*, App. to p. 103.
Aglaeactis castelnaudi, Bonap. Consp. Gen. Av., p. 73, *Aglaeactis,* sp. 4.—Reich. Aufz. der Col., p. 9.
Aglæactis castelneaui, Bonap. Rev. et Mag. de Zool. 1854, p. 253.

Two specimens of this extremely fine species of *Aglæactis* are all that are known; these were collected in the neighbourhood of Cusco by the celebrated and intrepid traveller, Count Castelnau, during his travels in Peru. One of these specimens graces the gallery of the Jardin des Plantes at Paris, the other my own collection; the latter is probably a female, and the former a young male: whenever the fully adult bird is discovered, it will doubtless prove to be an object of the greatest beauty.

Its large size, the resplendent purple colouring of the back, and the great number of broad, elongated and pendent plumes of the breast, certainly render it the most ornamental species of the genus. It is allied to *Aglæactis cupripennis* and *A. Pamela*, which, combined with the *A. caumatonotus*, form one of the best-defined genera of the family.

This species has been named by MM. Bourcier and Mulsant in honour of its discoverer.

The male has the general plumage of a dark bronzy-brown, mottled with patches of a lighter hue about the sides of the head, neck and throat; lower part of the back and upper tail-coverts beautiful lilaceous-purple; wings bronzy-brown; on the centre of the chest a number of pendent white plumes; tail rufous, glossed with bronze on the central feathers and the margins and tips of the remainder; under surface bronzy-brown, fading into buffy-red on the under tail-coverts; upper mandible black; under mandible flesh-colour; feet brown.

The supposed female is very similar, but has only a trace of the fine lilaceous-purple on the rump and upper tail-coverts.

The figures are the size of life. The plant is the *Tacsonia mollissima.*

AGLÆACTIS PAMELA.

J Gould imd. H C Fischer del. et lith

Hullmandel & Walton, Imp

AGLÆACTIS PAMELA.

Pamela's Sun-beam.

Orthorhynchus Pamela, D'Orb. et Lafres. Syn., p. 29. no. 14.—D'Orb. Voy. dans l'Amér. Mérid., Ois., tom. iv. p. 375. pl. 60. fig. 1.

Hylocharis Pamela, Gray and Mitch. Gen. of Birds, vol. i. p. 114, *Hylocharis*, sp. 13.

Aglæactis pamela, Bonap. Consp. Gen. Av., p. 73, *Aglæactis*, sp. 2.—Ib. Rev. et Mag. de Zool. 1854, p. 253.—Reichenb. Aufz. der Colibris, p. 9.

Helianthea Pamela, Reichenb. Troch. enumer., p. 6. pl. DCCXXXIII. figs. 4691, 4692.

As far as is yet known, this magnificent species is exclusively confined to Bolivia. It was first discovered by M. D'Orbigny, and a figure and description of it will be found in his "Voyage dans l'Amérique." In the extent of the lustre of the upper surface it far exceeds all the other members of the genus, the entire back being covered with glittering metallic-green feathers, as if encased in a coat of mail; it is also rendered very conspicuous by the tuft of feathers which springs from the chest.

Fortunate indeed may be considered those travellers who have seen this fine bird in a state of nature. M. D'Orbigny states that he only saw two examples, but Mr. Bridges procured numerous specimens during his travels into the interior of Bolivia; and it was from this gentleman that I procured the fine series which grace, and may be considered the gems of, my collection. Hardy in its constitution, this species braves with impunity the fierce blasts of the bleak mountain-ranges among which it dwells, at an elevation more than double the height of the loftiest mountain of the British Islands. Here, amid alpine plants, and with the uninterrupted rays of the sun imparting additional lustre to the glittering feathers of its back, it must form a truly gorgeous object. Like the *A. cupripennis*, the back feathers of this bird receive the rays of light in an opposite direction to that required to show the beauty of nearly all other birds, it being only from behind that they appear brilliant.

I have much pleasure in adding the following short notes on this species from the work of M. D'Orbigny above referred to, and the pen of Mr. Bridges:—

"We met with this species," says M. D'Orbigny, "in the 17th degree of south latitude, at the upper limit of ligneous vegetation, near Tajesi, in the province of Yungas, on the eastern side of the Cordillera of La Paz, in Bolivia; we also met with it on the summit of the mountains in the province of Ayupaya, near Palca-Grande; and we believe that it is confined to those mountainous regions, at an altitude of about 3500 metres above the level of the sea. As yet we have only seen two specimens, which renders it probable that it is very rare; but it must be mentioned, that it is impossible to remain for any length of time in the localities it inhabits."

Mr. Bridges states that it "is found at Unduave, and in the Yungas of Cochabamba; far up the mountains, near the limit of vegetation, at an altitude of 10,000 feet. It procures its food from the flowers of a species of *Alstrœmeria*."

As is the case with *A. cupripennis*, the female is not so fine as the male; the general colouring of her body not being so deep, the back having only a slight trace of the brilliant green, and the breast-tufts being shorter.

The male has the head, neck, upper part of the back, upper and under wing-coverts, and all the under surface, dark velvety brownish black; on the centre of the chest a tuft of long pendent black feathers tipped with white; wings bronzy purplish brown; lower part of the back, rump, and upper tail-coverts velvety brown when viewed in front, and of glittering metallic grass-green when viewed from behind; tail dark chestnut, each feather narrowly edged externally and more broadly tipped with bronzy brown; bill and feet blackish brown.

The Plate represents both sexes of the natural size. The plant is the *Dipladenia acuminata*.

OXYPOGON GUERINI.

Guerin's Helmet-crest.

Ornismia Guerinii, Boiss. Rev. Zool. 1840, p. 7.
Trochilus parvirostris, Fras. Proc. of Zool. Soc., Part VIII. p. 18.
Ornismya Guerinii, Lodd. in Proc. of Zool. Soc., Part XI. p. 122.
Oxypogon Guerinii, Gould in Proc. of Zool. Soc., Part XVI. p. 14.
Mellisuga Guerinii, Gray and Mitch. Gen. of Birds, *Mellisuga*, sp. 30.
Warrior, of the dealers in specimens of natural history.

This fine species of Humming Bird is a native of the higher regions of the Columbian Andes, where, judging from the abundance in all the collections of specimens that are sent from Bogota, it must be very common : although it is not adorned, like many of the Humming Birds, with bright metallic colours, the beautiful lengthened crest and throat feathers render it a showy and conspicuous species. Dissection alone can determine whether the crestless birds represented in the Plate are adult females or youthful birds ; I think it likely that they will prove to be the latter. The middle figure on the upper part of the Plate represents I believe a young male of the year, but I should not be surprised if we hereafter learn that fully adult females possess a similar style of plumage ; in all probability, however, the black feathers of the crest are always wanting in that sex.

The adult male may be thus described :—Head and chest brownish black, with a narrow line of white down the centre, joined on the forehead to two narrow lines of white, which proceed thence along either side of the base of the bill ; on the centre of the throat is a similar lengthened tuft of white feathers, down the middle of which is a line of rich shining green ; black of the head bounded on the sides and in front by a broad mark of buffy white ; upper surface, wing-coverts and two central tail-feathers bronzy green, the latter with the basal two-thirds of their shafts white ; lateral tail-feathers coppery bronze, with a stripe of white down the centre, which increases in extent as the feathers recede from the centre, until on the outer feather it becomes of a broad spatulate and incurved form ; wings purplish brown ; under surface light olive-brown, with bronzy reflexions on the flanks ; under tail-coverts light olive-brown ; bill and feet blackish brown.

Total length, $4\frac{1}{2}$ inches ; bill, $\frac{1}{2}$; wing, $2\frac{3}{4}$; tail, $2\frac{1}{4}$; tarsus, $\frac{1}{4}$.

The birds which I consider to be females resemble the male in colour, but are altogether less brilliant, are much smaller in size, have the throat and crest feathers much less developed, and moreover have no black feathers in the crest.

Total length, 4 inches ; bill, $\frac{1}{2}$; wing, $2\frac{5}{8}$; tail, $2\frac{1}{8}$, tarsus, $\frac{1}{4}$.

The young are similar, but smaller and less brilliant ; they are also entirely devoid of the lengthened feathers of the head and throat, and have on the sides of the throat numerous spots of olive-brown, which nearly meet in the centre.

The figures are of the natural size ; the two in the fore-ground engaged in one of those conflicts which so frequently occur with all the species of this family.

Hellmandel & Walton Imp

OXYPOGON LINDENI.

Linden's Helmet-crest.

Ornysmia Lindenii, Parz. in Rev. Zool. 1845, p. 253.
Oxypogon Lindenii, Gould in Proc. of Zool. Soc., Part XV. p. 14.
Mellisuga Lindenii, Gray and Mitch. Gen. of Birds, *Mellisuga*, sp. 31.
Black Warrior, of the dealers in specimens of natural history.

For our knowledge of this fine species we are indebted to the researches of Monsieur J. Linden of Luxembourg, whose name it bears, and who discovered it in the province of Merida in the Republic of Venezuela. It is very nearly allied to the *Oxypogon Guerini*, but is readily distinguished from that species by its much larger size and darker hue, by having a mere indication of the stripe of green down the throat, and by the shafts only of the lateral tail-feathers being white. Having solicited M. Linden to furnish me with some information respecting this interesting species, he has obligingly transmitted to me the following remarks :—

"I met with this species for the first time in August 1842, while ascending the Sierra Nevada de Merida, the crests of which are the most elevated of the eastern branch of the Cordilleras of Columbia. It inhabits the regions immediately beneath the line of perpetual congelation, at an elevation of from 12,000 to 13,000 feet above the level of the sea; Messrs. Funck and Schlim found it equally abundant in the Paramos near the Sierra Nevada, at the comparatively low elevation of 9000 feet. It appears to be confined to the region between the 8th and 9th degrees of north latitude. It occasionally perches upon the thinly scattered shrubs of this icy region, such as the *Hypericum*, *Myrtus*, *Daphne*, arborescent *Espeletias*, and towards the lower limit on *Bejarias*, but most frequently upon the projecting ledges of the rocks near to the snow. Its flight is swift, but very short; when it leaves the spot upon which it has been perched, it launches itself obliquely downwards, uttering at the same time a plaintive whistling sound, which is also occasionally uttered while perched; as well as I can recollect, I have never heard it produce the humming sound made by several other members of the group, nor does it partake of their joyous spirit and perpetual activity. Neither myself nor Messrs. Funck and Schlim were able to discover its nest, although we all made a most diligent search. Its food appears principally to consist of minute insects, all the specimens we procured having their stomachs filled with small flies."

The adult male has the head and lengthened crest black, with a narrow stripe of white feathers down the centre, joined on the forehead by two narrow lines of white, which proceed along either side of the base of the bill; down the centre of the throat is a similar lengthened tuft of white feathers, in the middle of which there is a faint indication of the rich shining green mark so conspicuous in *O. Guerini*; black of the head bounded on the sides and in front by a broad band of white; upper surface, wing-coverts and two centre tail-feathers bronzy green, the latter with a narrow line of white down the basal portion of the shaft; lateral tail-feathers coppery bronze, with the basal portion of the shafts white, which is somewhat broader on the outer feather on each side than on the others; under surface of the tail bronzy purple; wings purplish brown; under surface olive-brown, with bronzy reflexions; under tail-coverts bronzy green, narrowly edged with white; bill, feet and eyes brownish black.

Total length, $5\frac{1}{4}$ inches; bill, $\frac{5}{8}$; wing, 3; tail, $2\frac{1}{2}$; tarsus, $\frac{5}{16}$.

The female has the head and upper surface coppery brown; tail as in the male, but not so rich in colour, and with a broader mark of white on the lateral feathers; throat mottled with white and coppery brown feathers; flanks coppery brown with greenish reflexions.

Total length, $4\frac{1}{4}$ inches; bill, $\frac{1}{2}$; wing, $2\frac{1}{2}$; tail, 2; tarsus, $\frac{1}{4}$.

The figures represent two males and a female of the natural size, on a flowering branch of *Bejaria coarctata*, Hooker.

RAMPHOMICRON HETEROPOGON.

J. Gould, and H.C. Richter, del. et lith.

Hullmandel & Walton Imp.

RAMPHOMICRON HETEROPOGON.

Columbian Thorn-bill.

Ornismya heteropogon, Boiss. in Rev. Zool., 1839, p. 355.—Ib. Mag. de Zool., 1840, Ois. pl. 12.

Trochilus coruscus, Fras. in Proc. of Zool. Soc., part viii. p. 15.

Mellisuga heteropogon, Gray and Mitch. Gen. of Birds, vol. i. p. 112, *Mellisuga*, sp. 28.

Ramphomicron heteropogon, Bonap. Consp. Gen. Av., p. 79, *Ramphomicron*, sp. 2.

The high lands of the great country of Columbia, from Venezuela to some distance to the northward of Santa Fé de Bogota, are the natural habitat of this fine species. It is there very generally spread over the temperate regions of the country, never ascending to the snow-capped hills, nor descending to the hot plains below, but frequenting the warmer valleys, where a luxuriant vegetation teeming with insect life affords it a never-ceasing supply of nourishment. Its comparatively short and feeble bill points out that minute insects constitute its principal food; and as its structure is so similar to the other species of the genus, we may infer, that, like them, it tranquilly flits about among the low shrubs in secluded valleys, and does not ascend to the loftier trees, as do many of the *Trochilidæ*.

Of all the Humming-Birds sent in collections from Santa Fé de Bogota, the present species occurs in the greatest abundance; and it must indeed be very numerous in the districts resorted to by the wholesale collectors of that city. These specimens are either captured in nets, or killed with the blow-pipe by the Indians. Considerable variation occurs in the size of specimens from different localities. The Venezuelan examples, particularly those from Pamplona, are much larger, and have the luminous throat-mark more extensive than in those from Bogota; the colder climate of which place, due in a great measure to its elevated position, appears to prevent the birds from attaining the size and brilliancy of their more luxuriantly situated brethren. I have reason to believe that the old females have the beard-like appendage, though less strongly developed than in the male, inasmuch as among the numerous examples sent to Europe very small specimens so dressed frequently occur. If this supposition be correct, the latter style of plumage will doubtless be found in the very old females of the other species of the genus; but this is a point which can only be ascertained by dissection.

The young of the year of both sexes are totally devoid of the luminous gorget, the under surface being of a uniform colour; or if the uniformity be broken, it is only by a few speckled markings, like those that occur in the young of *R. Herrani*, *R. microrhyncha*, &c.

Forehead and crown of the head deep shining green; upper surface and wing-coverts rich greenish bronze; wings purplish brown; tail deep bronzy brown; down the centre of the throat a series of pendent plumes, the upper portion of which is shining metallic green, tinged on each side with orange, and the lower portion deep metallic purplish lilac; sides of the neck and under surface bronzy green, fading into pale brown on the lower part of the abdomen; across the vent an irregular mark of greyish white; under tail-coverts buff, with bronzy centres; bill black; legs purplish grey; soles of the feet yellowish; claws dark purplish brown.

Two males, and a female or a young bird of the year, are figured on the accompanying Plate, from Pamplonan specimens received from Mr. Linden.

RAMPHOMICRON STANLEYI.

J. Gould and H.C. Richter, del et lith.

Hullmandel & Walton, Imp.

RAMPHOMICRON STANLEYI.

Stanley's Thorn-bill.

Trochilus Stanleyi, Bourc. et Muls. in Ann. de la Soc. d'Agr., &c. de Lyon, May 24, 1850.

So largely have our collections been enriched of late years with additional species of this lovely group of birds, that I believe I am right in affirming that only fifteen years prior to the present period (1852), not a single species of the restricted genus *Ramphomicron* was known to the Ornithologists of Europe. This may have arisen in a great measure from the scanty knowledge we then had of the productions of the great Andean range, particularly that portion bordering on the Equator, from the circumstance of some of the species being apparently confined to very limited areas, and to the fact of many of them inhabiting localities wherein no one could have imagined that such delicate creatures would be found, and where, consequently, they were never sought for. The species figured on the accompanying Plate is a remarkable illustration of the case in point, the bird being, as I have reason to believe, confined to the inner sides of the great crater of Pichincha in Ecuador, where it was discovered by the French Trochilidist, M. Bourcier, whose account of his ascent of the mountain and discovery of the bird is so admirably detailed, that it is only an act of justice to him to give the account as nearly as may be in his own words. Before doing so, however, I would remark that this bird, which is of no ordinary interest, possesses characters so peculiarly its own, that it cannot for a moment be confounded with any other species.

The dark and lugubrious colouring, relieved alone by the narrow metallic streak down the throat, indicates, on the one hand, the kind of situation in which it would probably be found; and on the other, its short and feeble bill points out that minute insects constitute its food, and that a corresponding diminutive flora doubtless clothes the situations which the bird frequents.

The present makes the fifth species of the well-defined genus *Ramphomicron*, and although not the most highly coloured, it is not the least interesting in the eyes of the true Naturalist. In the blue colouring of its back it is nearly allied to *R. microrhyncha*; while in the form of its beard or throat-mark it reminds one of the well-known *R. heteropogon*. As is the case with those species, the female differs from the male in wanting the brilliant throat-mark; and the young birds are mottled on the throat with white.

M. Bourcier has dedicated this species to the son of the Earl of Derby, as a tribute of respect to his Lordship, and to his noble grandfather, who devoted a long lifetime to the pursuit of Natural History, and contributed so largely and so munificently to the advancement of that branch of science.

The following account by M. Bourcier of his discovery of this beautiful species, as given in a letter to his friend M. Mulsant, will be read with interest:—

"A few days ago, accompanied by two Indians, I attempted an ascent of the mountain Pichincha, a volcano so called, situated about three leagues and a half to the west-north-west of the city of Quito, but which is not usually reached until after a seven or eight hours' march. Part of the journey may be easily performed on horseback, but on attaining a certain elevation you are compelled to quit your horses, and let them await your return: fortunately the uninhabited position permits of your tethering them without fear of robbers. From this point the ascent became very difficult, as we had continually to climb over the heaps of pumice-stones with which the steep sides of the mountain were strewn. But how can I describe to you the magnificent picture which, after having surmounted these obstacles, met our delighted gaze? Picture to yourself two crater-formed cavities, separated by a trachytic wall, from the bottom of which opens nearly forty mouths vomiting smoke. We were at a height above the level of the sea corresponding with the summit of Mont Blanc, without a trace of vegetation around us; it was the desert in its majesty and its silence. The Condor alone, the King of these elevated solitudes, hovered above these desert places, his eternal domain. At our feet were immense gullies, of which the distance disguised their vast depth. They had been formed without doubt by the dreadful eruptions of which history and tradition have preserved the most unhappy remembrances. Unfortunately we had proceeded in the direction of the most abruptly elevated point, and were obliged to make a detour of three quarters of a league to find a more gradual ascent; nevertheless, it was still from 400 to 500 metres. This delayed my arrival at the middle of the desert circle, and prevented me from approaching near to these breathing-holes, which perhaps preserve the country from fresh eruptions of the volcano, and from exploring with ornithological views a country too rarely visited. Then think of the troubles and dangers to be encountered before being repaid! To descend these steep declivities, one is obliged to support oneself on one's hands, and occasionally to slide over the surface. Often the calcined accumulations on which you tread pulverize under your feet, causing those around to lose their equilibrium and draw others after them, the falling masses frequently menacing the life of the traveller. After four hours of fatigue alleviated by the hope of pleasures to come, we arrived at the wished-for destination, and found ourselves in a crater of a circular or rather slightly oval form, surrounded by a kind of wall of trachyte of a uniform elevation, except on the western side, where it is cut down for the passage of the waters, which falling into the Esmeralda, carry their tribute to the Pacific

Ocean. In this sort of enclosure arises an elevated cone, from whence are emitted numerous jets of sulphurous acid, and from whence escapes, accompanied by a slight noise, a watery vapour. In some of these breathing-holes the sulphur is condensed into crystals; and in many places the ground is covered with pulverized pumice or black cinders, which renders one fearful of approaching them. The earth presents crevices the depth of which the eye dares scarcely measure, and some of which must be at least 200 metres deep; they gather the rain and snow-waters, and become the beds of rivulets which flow westward. These ravines or *quebrados*, as the Indians call them, frequently obliged us to make lengthy detours, and to waste a considerable amount of time. The sides of those of moderate depth were carpeted with verdure and ornamented with various shrubs. Here it was that I had the pleasure of discovering the *Trochilus Stanleyi*, a lovely species, which rifles flowers of the *Chuquiraga insignis*, a plant so named by the illustrious Humboldt, of which it appears to be an ardent lover conjointly with *T. pichincha*, with which species it is continually at war.

"I found that it would require a week completely to explore these wilds; but how were we to carry the necessary provisions? and how could I hope for fine weather at such an elevation for an entire week? On the present occasion I had been favoured in this latter respect beyond my hopes; to a magnificent day succeeded a beautiful night, during which the moon, at its full, lent a fairy charm to the scene. Wrapped in our ponchos, a kind of cloak of the country, we awaited the return of day; reclining upon stones and sheltered by a rock, in spite of the inconvenience of the position, we enjoyed the pleasures of a deep sleep upon this menacing soil, which in a moment of caprice might launch us into eternity. The next day unexpected troubles attended us; in order to regain the rocks which formed the barrier to the enclosure, we were obliged to pick our way along a sandy soil, in which we sank up to our knees; and in order to creep along this quicksand, which continually yielded to our feet, we had to support ourselves by rocks, which as frequently broke away beneath our fingers. Arriving at last, after many long and weary hours, on the highest elevation of this impracticable ground, we found ourselves in the Paramos mountains, used for the pasturage of cattle. Here the winds blew at once with such violence, and a blast so keen, that I twice essayed to continue my route before I could muster courage so to do. We now took again to our horses, with which we soon gained the woody slopes, clothed with various species of *Datura*, and the rich plains which lead to the city. On re-entering Quito, all my troubles were forgotten, while the pleasure of having made a new discovery remained impressed upon my memory, coupled with a vivid recollection of the interesting scene in which it had occurred."

Head, sides, and back of the neck and wing-coverts greenish bronze; back and rump deep violet blue; wings purplish brown; upper tail-coverts and tail dark bluish green; down the centre of the throat is a series of scale-like feathers, broad at the chin and gradually tapering to a point on the breast, the upper part of which is of a brilliant metallic emerald green, which passes into the amethystine blue, tinged on the margins with red of the lower portion; under surface dark sooty-brown washed on the flanks with bronze; under tail-coverts of a greyish white, with a streak of steel-blue down the centre of each feather; bill and feet black.

The female differs in having no trace of the brilliant gorget.

The Plate represents two males and a female of the natural size on the *Siphocampylus giganteus*.

RAMPHOMICRON VULCANI, *Gould.*

Hochstetter & Richter del. et lith *Walter & Cohn, Imp*

RAMPHOMICRON VULCANI, *Gould.*

Southern Thorn-bill.

Rhamphomicron Vulcani, Gould in Jard. Cont. to Orn. 1852, p. 135.

The single specimen I possess of this curious bird was brought to this country by M. Warszewicz, and was, I believe, collected during his last journey into Bolivia; but of this I am not certain. It is doubtless a mountain species, and probably inhabits, like the *Ramphomicron Stanleyi*, the shrubby sides of the interior of some extinct volcano. It is perhaps more nearly allied to that species than to any other, but differs from it in the colouring of its luminous throat-mark. The acquisition of only a single specimen of this species tends to confirm the opinion I have elsewhere expressed that many new species of Humming-Birds will yet be discovered among the towering Andes.

The following is a copy of my original description of this bird, published in Sir William Jardine's 'Contributions to Ornithology' for 1852.

"Head, sides, back of the neck and wing-coverts greenish brown; back and rump deep violet blue; wings purplish brown; upper tail-coverts and tail dark bluish green; down the centre of the throat a series of scale-like feathers, broad at the chin and tapering to a point on the breast, the upper part of which is of a brilliant metallic emerald-green, passing into steely amethystine blue; under surface dark brownish grey; under tail-coverts greyish white, with a streak of steel-blue down the centre of each feather; bill and feet black.

"Total length $4\frac{1}{2}$ inches; bill $\frac{9}{16}$; wing $2\frac{5}{8}$; tail $2\frac{1}{4}$.

"*Remark.*—Nearly allied to *R. Stanleyi*, but of a much smaller size; greyer on the breast, and the lower part of the beard steely amethystine blue, with little or none of the reddish tinge seen in that species."

The figures are of the natural size. The plant is the *Sida Pichinchensis.*

RAMPHOMICRON HERRANI.

J. Gould and H. C. Richter, del. et lith.

Hullmandel & Walton, Imp.

RAMPHOMICRON HERRANI.

Herran's Thorn-bill.

Trochilus Herrani, De Latt. et Bourc. in Rev. Zool., Sept. 1846.
Calothorax herrani, Bonap. Consp. Gen. Av., p. 85, *Calothorax,* sp. 3.

It is not more remarkable than it is true, that some of our most eminent ornithologists entertain a kind of antipathy to the beautiful *Trochilidæ*; while others, charmed by their elegant forms, brilliant metallic decorations and interesting habits, regard them with a feeling akin to admiration; I feel certain, however, that the course of time and a better acquaintance with the subject, will lead the former class into the ranks of the latter, and that these lovely birds will become universal favourites. The rarer species are but little known and understood, and doubtless many of great beauty yet remain to be discovered. It is but very recently that the brilliant bird figured on the accompanying Plate has been sent to Europe, and surely the discovery and acquisition of objects such as this must tend to weaken the opinions of those who regard the entire group as uninteresting: for my own part, I consider this addition to our stores to be replete with interest in every sense of the word; its elegant form, fine bold rounded purple tail, rufous crown and rump, yielding in colour only to that of its fiery beard, rendering it the finest species of the genus yet discovered.

The female was first obtained by M. Delattre at Pasto, in New Grenada, but I believe the discovery of the male is due to M. Bourcier, who procured several examples in the primæval forests of Ecuador. A fine specimen of the former sex has also been sent to me by M. Warszewiez, from the Cordillera of Quindios in Columbia; the true habitat of the species would therefore seem to be the great ranges of the Andes, near to the Equator. Its fine colours indicate that it is a native of warmer regions than those frequented by any other member of the genus. The colouring of the sexes is very similar, with the exception of the female being destitute of the beard-like appendage so conspicuous in the male.

M. Bourcier informs me that "it flies but little, and is very tranquil in its own habits, but is continually pursued and attacked by the other species of Humming-Birds frequenting the same locality. Its flight is short and easy, as it skips from branch to branch to explore the flowers of the small shrubs, from which it obtains its insect food. It remains motionless during the day, and is only to be met with in the evening or very early in the morning. I made diligent search in all the mountainous districts called *Paramos*, used for the pasturing of cattle, in the hope of finding additional examples, but in vain; I am therefore led to conclude that it does not exist beyond the chain of mountains whence the river Madelaine rises. I am inclined to think that the female is destitute of the beard."

This fine bird has been dedicated by MM. Delattre and Bourcier to General Herran, formerly President of the Republic of New Grenada, a gentleman of rare attainments, who evinced the greatest friendship for Europeans, and an ardent desire to promote in his own country the useful and natural sciences.

Down the centre of the crown from the bill to the occiput a stripe of rusty red, tinged with golden on its posterior half; sides of the head dull black; plumage of the upper and under surface dull bronzy green, with an indistinct band of buffy-white across the lower part of the abdomen; wings purplish brown; rump and upper tail-coverts deep bronzy rufous; two central tail-feathers plum-colour, the remainder purplish black, the two outer ones on each side largely, and the third on each side slightly tipped with white; feathers of the chin small, scale-like, and of a brilliant metallic green, below which is a series of larger elongated pendent feathers of a brilliant fiery metallic red, bounded on either side with deep velvety black; under tail-coverts buffy white; bill black; feet blackish brown.

In the female or young bird, the mark on the crown is broader and of a uniform dark rust-red; upper surface, wings and tail as in the male, but less brilliant, especially on the rump; throat pale buff, with a spot of shining green at the tip of each feather.

The Plate represents two males and a female, or young bird, on a plant of the country in which the bird is found.

RAMPHOMICRON RUFICEPS. *(Gould)*

J. Gould. and H.C. Richter. del. et lith.

Hullmandel & Walton, Imp.

RAMPHOMICRON RUFICEPS, *Gould.*

Red-capped Thorn-Bill.

Trochilus (—?) *ruficeps*, Gould in Proc. of Zool. Soc., part xiv. p. 89.
Mellisuga ruficeps, Gray and Mitch. Gen. of Birds, vol. i. p. 112, *Mellisuga*, sp. 29.
Ramphomicron ruficeps, Bonap. Consp. Gen. Av., p. 79, *Ramphomicron*, sp. 3.

With the exception of *Ramphomicron microrhynchus*, this is the least species of the genus with which I am acquainted; it is most nearly allied to *R. heteropogon*, but may at once be distinguished from that species by its red crown and by the nearly uniform hue of the gorget or throat-mark. A single specimen only graces my collection; the discovery of which is due to Mr. Bridges, who brought this and numerous other treasures from the interior of Bolivia. The only other species of *Ramphomicron* with a red crown is the beautiful *R. Herrani*; but with this bird the *R. ruficeps* can never be confounded.

Mr. Bridges informed me that the specimen above alluded to was found by him at Unduave, in the Yungas of La Paz.

Crown deep rusty red; throat lustrous bronzy green; upper surface green; under surface brownish green; tail pure bronze; wings purplish brown; bill black.

RAMPHOMICRON MICRORHYNCHA.

J Gould and H C Richter del. et lith.

Hullmandel & Walton, Imp

RAMPHOMICRON MICRORHYNCHA.

Thorn-bill.

Ornismya microrhyncha, Boiss. in Rev. Zool. 1839, p. 354.—Ib. Mag. de Zool. 1840, Ois., pl. 16.
Trochilus brachyrhynchus, Fras. in Proc. of Zool. Soc., part viii. p. 16.
Mellisuga microrhyncha, Gray and Mitch. Gen. of Birds, vol. i. p. 112, *Mellisuga*, sp. 32.
Ramphomicron microrhyncha, Bonap. Consp. Gen. Av., p. 79, *Ramphomicron*, sp. 1.

In the accompanying Plate, I have vainly attempted to illustrate this very lovely species, which (strange as it may seem) always conjures up in my mind a remembrance of the glow-worm, whose evening torch so charmingly illumines the dark lane-sides of our own country; for indeed in its plumage, a gleam of intense lustre is contrasted with the tone of the general plumage. The glow-worm shines in the dark, but this bird, on the contrary, is most glorious in the glare of the sun; when its throat, opposed to bright light, becomes transcendently brilliant; the surrounding dark colouring tending to render it more conspicuous: the beautiful violet-coloured back, relieved by the dark hue of the wings, and the black tail, all combined with the utmost harmony, and in the most elegant form, render this bird an object of no ordinary interest. As its name implies, the bill is remarkably small, and in fact, there is no species yet discovered that has this organ so diminutive: how minute then must be the insects upon which it feeds, how small must be the flowers from which they are obtained, and how active must it be to procure a sufficient supply of these microscopic creatures for the sustenance of life! M. Bourcier informs me that it is a migratory species, and that in Ecuador, where he had killed many specimens, he had seen it obtaining its insect food from the low composite plants, with open daisy-like tufts of yellow flowers, growing on the hill sides at an elevation of from eight to twelve thousand feet, to which it seemed to be so partial, that wherever he found these plants, there he was quite certain to find the bird also. M. Bourcier adds, that a great number may be killed before adult males in full plumage are procured, and that the preparation of specimens for the cabinet is very difficult, from the readiness with which the feathers are detached from the skin. It is usually met with in small companies; flies very gently, and never rises far from the ground. From Ecuador, which I believe to be its most southern limit, it is found far to the southward of Santa Fé de Bogota, and doubtless inhabits all the districts between these distant localities. It will be seen then, that, like its congeners, it is strictly an Andean species. Although now very common in our collections, it is only within the last few years that the bird was discovered and sent to Europe.

The adult male has the head, all the upper surface and wing-coverts rich dark shining purple; wings very dark purplish brown; tail velvety black; on the throat a large gorget of the most luminous metallic yellowish green; under surface bronzy green; across the vent an irregular band of buff; under tail-coverts dull bronzy green, edged with buff; bill black; feet dark brown.

The female has the whole of the upper surface bronzy green; the throat white with a spot of bronzy green at the tip of each feather; the remainder of the under surface white, washed with bronzy green on the flanks; vent deep buff; under tail-coverts similar to, but darker than those of the male; tail purplish bronzy black, the two lateral feathers on each side tipped with white; a white mark in the centre of the back in some instances.

It is not yet, I believe, clearly ascertained if the adult female ever has the gorget; in all probability she has not, or at all events not until after her capability for reproduction has ceased.

In some specimens we find the purple of the upper surface mottled with shining green; the throat-mark only partially developed, the lower part of the abdomen, and the margins of the under tail-coverts white, and the outer tail-feather only tipped with that colour: the birds in this state, I believe, are males of the second year assuming the adult plumage.

The Plate represents two adult males, a female, and a young bird of the year, on a species of *Mimosa* of the country, a plant very generally resorted to by the *Trochilidæ*.

UROSTICTI BENJAMINI.

J. Gould and H.C. Richter, del et lith

Hullmandel & Walton Imp

UROSTICTE BENJAMINI.

White-tip.

Trochilus Benjamini, Bourc. Compt. Rend. de l'Acad. des Sci., tom. xxxii. p. 187.

This beautiful species, one of the late discoveries in this lovely tribe of birds, differs in so many particulars from every other member of the family, that I have been constrained to give it a new generic title, and have selected that of *Urosticte* as indicative of the conspicuous white terminations of the four central tail-feathers; in nearly every other instance it is the outer feathers that are thus marked, and not the central ones, and it is the circumstance of the latter being thus decorated in the present bird which renders it so remarkable.

For a knowledge of this fine bird we are indebted to M. Bourcier, who discovered it during his residence in Ecuador as the French Consul General for that Republic; and who has named it *Benjamini*, after the eldest son of Mr. Leadbeater, a name so well known to all naturalists. M. Bourcier states that it inhabits the warm regions in the environs of Gualea; and I have received several examples from Quito, through the hands of Professor Jameson, who procured them on the western side of Pichincha.

The sexes offer a marked difference, as will be seen by the following descriptions:—

The male has the general plumage of the body, both on the upper and under surfaces, green; behind the eye a conspicuous projecting tuft of white; throat luminous green, below which is a gorget-shaped mark of deep reddish violet; wings dark purplish brown; tail bronzy purple, the four central feathers largely tipped with white; bill black; feet brown.

The female has the upper surface green, inclining to bronze on the head; the white tufts behind the eye less conspicuous; all but the two central tail-feathers tipped with white, and the throat and abdomen white, with a spangle of shining green at the tip of each feather.

The young male is dark bronzy green above, dark green below; has the throat rufous, and the four central feathers with an oblong patch of white near the tip.

The Plate represents two males, a young male and a female of the natural size, on a species of *Sedum*, grown by Sir William Jardine, Bart., at Jardine Hall, from seeds sent to him by Professor Jameson of Quito.

METALLURA CUPREICAUDA, *Gould*

J Gould and H C Fuchter, del et lith.

Hullmandel & Walton Imp.

METALLURA CUPREICAUDA, *Gould.*

Coppery-Tail.

Trochilus (—?) *cupricauda*, Gould in Proc. of Zool. Soc., part xiv. p. 87.
Mellisuga cupreocauda, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga*, sp. 43.
Metallura cupreicaudus, Bonap. Consp. Gen. Av., p. 75, *Metallura*, sp. 1.
——— *cupreicauda*, Reich. Auf. der Col., p. 8.
Aglæactis cupreicauda, Bonap. Rev. Zool. 1854, p. 253.

This large and extremely fine bird is distinguished from all the other members of its genus by its greater size, the dark colouring of its breast, and the lustrous coppery hue of the under surface of its tail. Mr. Bridges is almost the only person who has brought specimens of this bird to Europe. With one exception, all the examples in my collection were procured by him. These were part of the acquisitions he secured during an expedition into Bolivia, which, although not, perhaps, remunerative in a commercial point of view, increased his reputation as the discoverer of the many new and interesting objects, both in zoology and botany, he brought with him on his return to Europe. Mr. Bridges states that he found this fine bird engaged in extracting its insect food from the flowers of a graceful species of the genus *Loranthus*.

But few species of the Trochilidæ are so scarce in our collections as the present bird; and it would doubtless well repay any naturalist who would devote a series of years to the exploration of the rich country of Bolivia for the acquisition of fine examples of this and the many other interesting birds which there abound. Mr. Bridges mentions that he found this species in the Valley of Palea, near Tacna. It is, I believe, strictly a mountainous species, but is never found so high as the line of perpetual congelation.

Not possessing any examples of the female of this species, I am unable to give a description of that sex.

Throat lustrous bluish green; behind the eye a small spot of greyish white; crown of the head, neck, back, and all the upper surface dark lustrous purplish brown; wings the same, but lighter; under surface of the tail rich fiery and very luminous copper colour; its upper surface, in one light, rich purplish copper colour, and in another greenish; bill black.

The figures are of the natural size. The plant is the *Catasetum naso*, var.

METALLURA ÆNEICAUDA, *Gould.*

J Gould and H C Richter, del et lith

Hullmandel & Walton, Imp

METALLURA ÆNEICAUDA, *Gould.*

Brassy Tail.

Trochilus (—?) *æneocauda*, Gould in Proc. of Zool. Soc., part xiv. p. 87.
Mellisuga æneocauda, Gray and Mitch. Gen. of Birds, vol. i. p. 113, *Mellisuga*, sp. 44.
Metallura æneicaudus, Bonap. Consp. Gen. Av., p. 75, *Metallura*, sp. 2.
——— *æneicauda*, Reich. Auf. der Col., p. 8.
Aglæactis æneicauda, Bonap. Rev. Zool. 1854, p. 253.

The *Metallura æneicauda* is next in size, and also in rarity, to the Coppery-tailed species, of which latter quality the best evidence consists in the circumstance that neither of these species has received a second specific name. It was first brought to this country by Mr. Bridges, who obtained it at Unduave in the Yungas of La Paz in Bolivia. I believe I may say that of this species I have both males and females in my Collection, and that they are accurately depicted on the accompanying Plate. In this fine bird we have additional evidence of the riches of the Yungas: pestilential woods, however, I fear they are; otherwise they certainly would be more often visited. It cannot be supposed that during so hurried a visit and so short a stay as that made by Mr. Bridges, he could have obtained more than a tithe of the birds of these thickly-wooded regions. There are, doubtless, Humming-birds, Toucans, Trogons, and additional species of every other Andean group flying therein, examples of which have never yet been sent to Europe; what a field therefore is open for Mr. Wallace or Mr. Bates, should they determine to continue their explorations!

The entire under surface of the tail of the male of this species is of the richest metallic brassy green, while on the upper side it is washed with blue or purple in different lights. The same general colour pervades the tail in the female; but the three outer feathers on each side are tipped with grey, the outer one rather largely, the next less so, and the third very faintly. The female also wants the green on the throat; and her under surface is mottled with green and buff in lieu of the richer and purer green of the male.

The male has the throat luminous metallic green, under surface mingled green and brown; behind the eye a small spot of greyish white; upper surface green, wings purplish brown; under surface of the tail luminous brassy green; upper surface of the tail metallic brown, changing in some lights to deep blue or purple; bill black.

The figures are of the natural size. The plant is the *Callania Andinamarcana*.

METALLURA WILLIAMI.

J. Gould and H.C. Richter, del. et lith.

Hull mandel & Walton, Imp.

METALLURA WILLIAMI.

Purple-Tail.

Trochilus Williami, Bourc. et De Latt. Rev. Zool. 1846, p. 308.
Mellisuga Williami, Gray and Mitch. Gen. of Birds, vol. i. p. 112, *Mellisuga*, sp. 38.
Metallura Williami, Bonap. Consp. Gen. Av., p. 75, *Metallura*, sp. 5.—Reich. Auf. der Col., p. 8.
——— *william*, Bonap. Rev. Zool. 1854, p. 253.

The rich and little known country of Popayan, in New Grenada, is the favourite residence or habitat of this rare species, which is in every respect a true *Metallura*, and which, even with the most careless glance, cannot be confounded with any one of the already known species. In size it is intermediate between *M. smaragdinicollis* and *M. æneicauda*; but it differs from those, and every other species of the genus, in its sombre or obscure style of colouring, and particularly in the deep and peculiar violaceous blue colouring of the tail.

With regard to any difference in the plumage of the sexes, I can say but little. The specimen in my collection, which is supposed to be a female, has the entire under surface mottled with green and buff; in other respects she is similarly clothed to the male.

This species has been named in honour of Mr. William S. Wilson of Paris, brother of Dr. T. B. Wilson of Philadelphia, who has so largely enriched the fine collection of natural history in the Academy of Sciences of that city.

The male has the head and the whole of the upper and under surface and wing-coverts deep green, a very small spot of greyish white behind the eye; on the throat the green is lighter and brilliant; tail sordid purplish green above, beneath deep violet; bill black.

The female is very similar, but has no trace of the bright green on the throat. The description of this sex is necessarily imperfect, as I have only an indifferent specimen to describe from.

The figures are of the natural size. The plant is the *Macleania punctata*.

METALLURA PRIMOLINUS, *Bonap.*

J.Gould and H.C.Richter, del. et lith.

Walter & Cohn, Imp.

METALLURA PRIMOLINUS.

Primoli's Humming-Bird.

Metallura primolina, Bourc. in Rev. et. Mag. de Zool. 1853, p. 295; Reichenb. Aufz. der Col., p. 8.

——— *primolinus*, Bonap. in Rev. et Mag. de Zool. 1854, p. 253.

——— *primulina*, Reichenb. Troch. Enum., p. 5.

Urolampra primolina, Cab. et Hein. Mus. Hein., p. 68, note.

I HAVE been obliged to figure this bird from imperfect materials, the only specimen known being in a very indifferent state of preservation. It is contained in the collection of M. Bourcier, of Paris, and, I feel assured, is a female, and perhaps an immature one; but if so, I am confident that it is the female of a species quite distinct from any other that has yet been discovered. This is one of the reasons which have induced me to attempt its illustration, as by this means collectors may be incited to seek for more perfect specimens. Another reason for my so doing is, that I wish to comply with the desire of my late, highly esteemed friend Prince Charles Lucien Bonaparte, that the species should be named after his grandson, the infant son of Count Primoli, and that it should be figured in my work. I have deferred to the wishes of the Prince, and impatiently await the arrival of additional examples.

The *Metalluræ* are a group of Humming-Birds which has always interested me; and their richly luminous and ample tails cannot fail to elicit feelings of admiration in every one. The species are somewhat numerous, and they are all closely allied; yet each possesses certain prominent characters by which the ornithologist may readily discriminate the one from the other. They inhabit the great Andean range of mountains from the northernmost parts of New Granada to Bolivia and Peru; those inhabiting the last-mentioned countries are the largest and the most gorgeously attired.

The *M. Primolinus* is about the same size as the *M. Williami*, but differs from that species in the greater length of its bill and in the more luminous green colouring of the under side of the tail. It is said to be a native of Peru.

Crown of the head and upper surface dull bronzy green; under surface mottled bronzy green and buffy grey, the latter colour occupying the basal portion of the feathers; wings purplish brown; tail extremely luminous, shining green on the under surface and bronzy green and purplish blue on the upper, the three lateral feathers on each side slightly tipped with brownish grey; bill blackish brown, paler on the under than on the upper mandible; feet dark brown.

The figures are of the natural size. The plant is the *Thibaudia Pichinchensis*.

METALLURA TYRIANTHINA.

J. Gould. and H.C. Richter. del et lith.

Hullmandel & Walton. Imp.

METALLURA TYRIANTHINA.

Tyrian-Tail.

Trochilus tyrianthinus, Lodd. in Proc. of Comm. of Sci. and Corr. of Zool. Soc., pt. 11. p. 6.
Ornismya Allardi, Bourc. Rev. Zool. 1839, p. 294.—Ib. Ann. Sci. Phys. &c. de Lyon, 1840, p. 226. pls. 3, 4.
——— *Paulinæ,* Boiss. Rev. Zool. 1839, p. 354.—Ib. Mag. de Zool. 1840, pl. 13.
Trochilus Allardi, Jard. Cont. to Orn. 1850, pp. 81–9, 151. pl. 55.
Mellisuga tyrianthinus, Gray and Mitch. Gen. of Birds, vol. i. p. 112, *Mellisuga,* sp. 36.
Metallura tyrianthina, Reich. Auf. der Col., p. 8.
——— *tyrianthinus,* Bonap. Consp. Gen. Av., p. 75, *Metallura,* sp. 4.—Ib. Rev. Zool. 1854, p. 253.

The *Metallura tyrianthina* was first described by the late Mr. George Loddiges in the "Proceedings of the Committee of Science and Correspondence of the Zoological Society of London" for the year 1832; it afterwards received the name of *Allardi* from M. Bourcier in 1839, and that of *Paulinæ*, in honour of Mademoiselle Pauline Barthod, from M. Boissonneau, in 1840. It is without exception one of the commonest species of the genus, and enjoys an extremely wide range of habitat, extending over at least 15 degrees of latitude, being abundant all along the Andean ranges, from the Gulf of Darien to Ecuador. It appears to be especially numerous in the neighbourhood of Santa Fé de Bogota, a large number of examples being contained in every collection sent from that country. It has been figured by Sir William Jardine in his "Contributions to Ornithology" for 1850, where he has also given some interesting notes furnished to him by Professor Jameson of Quito, and M. Bourcier, which notes I take the liberty of extracting:—

"Professor Jameson gives the western declivity of Pichincha as the habitat of this species, and states that 'it feeds generally on the flowers of a blue lupine, and that its habits resembled more those of an insect than one of the feathered tribe.'"

"This species," says M. Bourcier, "is scattered over all the mountains of New Grenada and Ecuador; it is met with on all the woody mountains, and also in the valleys (feeding from the flowers of all the different kinds of plants and orchids) visited by other species of the *Trochilidæ*. It braves the cold, and is one of the Humming-birds which is found on the flowers of the last shrubs which are met with in the high regions of the Paramos (cold mountains covered with grass, which separate the surrounding rocks of sand covered with snow from the other spots clothed with wood).

"This Humming-bird has a rapid flight; it lives solitary, and makes its nest in ravines, among groups of plants, shaded from the sun and rain; like the other species, it lays two white eggs.

"The female is red under the belly, without any fine colour on the throat. The young are covered with a blackish plumage. I never heard this species utter a cry."

The sexes differ considerably in colour, the female being much less gaily attired than her mate; she is also somewhat smaller in size.

The male has the upper and under surface and wing-coverts dark dull bronzy green; a small spot of white behind the eye; down the throat a lengthened mark of luminous green, bounded on each side by blackish brown; wings purplish brown; tail rich purplish bronze; bill black.

The female has the plumage of the upper surface golden-bronze; tail bronzy purple, lighter than that of the male, the lateral feathers tipped with greyish white; no trace of the green gorget, the throat and the whole of the under surface being mottled with light grey, reddish, and here and there reflexions of green; behind the eye a spot of white.

The figures are of the natural size. The plant is the *Ceanothus Lobbianus*.

METALLURA SMARAGDINICOLLIS.

J Gould and H C Richter, del et lith

Hullmandel & Walton

METALLURA SMARAGDINICOLLIS.

Violet-Tail.

Orthorhynchus smaragdinicollis, D'Orb. et Lafr. Syn., p. 31. No. 23.—D'Orb. Voy. dans l'Amér. Mérid., tom. iv. p. 375. atlas, Ois., pl. 59. fig. 2.

Mellisuga smaragdinicollis, Gray and Mitch. Gen. of Birds, vol. i. p. 112, *Mellisuga*, sp. 42.

Metallura smaragdinicollis, Bonap. Consp. Gen. Av., p. 75, *Metallura*, sp. 3.—Reich. Auf. der Col., p. 8.—Bonap. Rev. Zool. 1854, p. 253.

At a first glance this species has a close resemblance to the *M. tyrianthina*; but on a further examination it is found to be more beautiful, and it certainly is very much more rare in the collections of Europe; the two species are in fact representatives of each other on either side of the equator, the present bird being found solely in Peru and Bolivia, while the *M. tyrianthina* is as exclusively an inhabitant of the high ranges north of the line. The beautiful violaceous tail of the present species will at all times distinguish it from its northern representative, this feature occurs in both sexes; in other respects their colouring is very similar. The discovery of this fine bird is due to the researches of M. D'Orbigny, who has published the following short note respecting its habitat, habits, &c.:—

"This species inhabits the woody and rather warm mountains of the eastern dip of the Cordilleras, from the 17th to the 18th degree of south latitude, principally in the environs of the hamlet of Cajapi, near Yanacaché, in the province of the Yungas, and in Palea, in the province d'Ayupaya in Bolivia. At no part is it common. Like most of the species inhabiting these regions, it lives more on the larvæ and the nymphalides of the small species of Hemiptera, than on the pollen of flowers."

The *Metallura smaragdinicollis* is one of the species procured by Mr. Bridges during his sojourn in Bolivia; it was also obtained by M. Warszewicz in Peru; from both these gentlemen I received examples.

The male has the head, all the upper surface and wing-coverts dark green; behind the eye a small spot of greyish white; down the centre of the throat an oblong mark of luminous green; wings purplish brown; tail reddish violet with green reflexions above, and reddish violet beneath; under surface of the body bronzy green; bill black.

The female is golden or bronzy green above, and buff, glossed with green, beneath; wings purplish brown; tail violet-purple, the lateral feathers tipped, and the centre ones slightly fringed at the end with greyish white; a small spot of greyish white behind the eye, and no trace of the gorget.

The figures are of the natural size. The plant is the *Dictyanthus Pavoni*.

ADELOMYIA INORNATA, *Gould*

J. Gould and H. C. Richter, del. et lith.

Hullmandel & Walton, Imp.

ADELOMYIA INORNATA, *Gould.*

Purple-throated Adelomyia.

Trochilus (——?) *inornata,* Gould in Proc. of Zool. Soc., part xiv. p. 89.
Mellisuga inornata, Gray and Mitch. Gen. of Birds, vol. i. p. 112, *Mellisuga,* sp. 34.
Ramphomicron inornatus, Bonap. Consp. Gen. Av., p. 79, *Ramphomicron,* sp. 6.
Adelomyia inornata, Bonap. Rev. et Mag. de Zool. 1854, p. 253.
Metallura inornata, Reichenb. Aufz. der Colibris, p. 8.—Ib. Troch. enumer., p. 5.

I FIRST became acquainted with this species in the year 1845, when Mr. Bridges returned from his expedition into the interior of Bolivia, and published a description of it, with its admeasurements, in the "Proceedings of the Zoological Society of London" for the year following. Since then I have received specimens from Peru, where they were procured by M. Warszewicz.

In its affinities the *Adelomyia inornata* is intimately allied to the *A. melanogenys*, but differs from that bird in the blue colouring of its throat and the darker tints of its general plumage, particularly of the under surface; there is also a more marked difference in the colouring of the sexes than occurs in that species, the female wanting the brilliant colouring of the throat.

Mr. Bridges collected his specimens at Sandillani, near the Yungas of La Paz; Bolivia and Peru may therefore be considered the native country of the species, which there represents the *A. melanogenys* of the more northern regions. There would seem to be no richer district in the whole of South America than these Yungas, yielding, as they have done, so many rarities both in birds and other branches of natural history, and where many others doubtless remain yet to be discovered.

The male has the whole of the upper surface bronzy green; lores rufous; stripe over the eye buff; patch under the eye black; under surface brown, with bronzy reflexions on the flanks; feathers of the throat tipped with purplish blue; wings and tail bronzy, all the feathers of the latter tipped with buff; bill black.

The female differs in having all the upper surface of a more golden hue, and the under surface buff, with speckles of brown on the throat.

The figures are the size of life. The plant is the *Passiflora Tucamansis*.

ADELOMYIA MELANOGENYS.

J.Gould and H.C.Richter, del. et lith

Hullmandel & Walton, Imp.

ADELOMYIA MELANOGENYS.

Black-eared Adelomyia.

Trochilus melanogenys, Fras. in Proc. of Zool. Soc., part viii. p. 18.
——— *Sabinæ*, Bourc. et Muls. Ann. de la Soc. Sci. de Lyons, 1846, p. 323.—Ib. Rev. Zool. 1846, p. 316.
Mellisuga Sabinæ, Gray and Mitch. Gen. of Birds, vol. i. p. 112, *Mellisuga*, sp. 33.
——— *melanogenys*, Gray and Mitch. Gen. of Birds, vol. i. p. 112, *Mellisuga*, sp. 35.
Ramphomicron sabinae, Bonap. Consp. Gen. Av., p. 79, *Ramphomicron*, sp. 5.
——— *melanogenys*, Ib., *Ramphomicron*, sp. 7.
Adelomyia sabina, Bonap. Rev. et Mag. de Zool. 1854, p. 253.
Metallura Sabinae, Reichenb. Aufz. der Colibris, p. 8.

It will be seen on reference to the accompanying Plate that this little species has no metallic or fine colouring to recommend it to our notice; indeed it is one of the most plainly coloured birds of the whole family. Among continental naturalists it is generally known as the 'Sabine' (*Trochilus Sabinæ* of Bourc. et Muls.); but it had been characterized in this country six years previously by Mr. Fraser, under the name of *Trochilus melanogenys*, which name having the priority is, as a matter of course, the one adopted. The dispersion of this bird over the great country of Columbia appears to be almost universal; its range also extends to Ecuador, and even to the confines of Peru. It is very frequently sent in collections from Bogota; I have received it also from the Caraccas, among other birds collected there by Mr. Dyson; from the Napo, through Don Villavicencio; Quindios, through M. Warszewicz; and Quito, through Professor Jameson. In all these countries it dwells in the temperate regions, rather than in the high mountainous districts or the hot plains below.

With respect to the outward appearance of the sexes, there is really so trifling a difference in the colouring of their plumage that it is impossible to distinguish the male from the female without having recourse to dissection.

The specific name of *melanogenys* is scarcely appropriate, since the dark colouring is almost entirely confined to the ear-coverts, and does not extend on to the cheeks as it would lead one to infer.

Head, upper surface, wing- and tail-coverts golden green; ear-coverts dull black; behind the eye a buffy white line; under surface ochreous white, washed with rufous on the flanks; feathers of the throat with a spot of dull black at the tip of each; wings purplish brown; two central tail-feathers bronzy brown; the lateral ones of the same hue at the base, passing into dull black, and with a large roundish spot of ochreous white at the tip of each; bill black, except at the base, where it is white or flesh-colour; feet apparently olive-brown.

The figures are of the natural size. The plant is the *Siphocampylus Orbignianus*.

ADELOMYIA MACULATA, *Gould.*

J Gould and H C Richter, del et lith

Walter & Cohn, Imp.

ADELOMYIA MACULATA, *Gould.*

Spotted Adelomyia.

In the letterpress accompanying my plate of *A. melanogenys*, I stated that the range of that species extended "from the Caraccas to Ecuador and Peru," but I find that the birds ranging over these countries are referable to two very distinct species. Those from the Caraccas, from which my figures were taken, are much smaller in size and have much broader tail-feathers than those from Ecuador. The question then arises, which of the two should bear the specific name of *melanogenys*? This unfortunately I have no means of determining; I have therefore thought it desirable to give a name to the bird inhabiting Ecuador. That the *A. maculata* ranges widely I know; for I have seen examples from Ecuador, Peru, and the banks of the Napo. There appears to be no outward difference in the sexes, at least I find no perceptible variation in the colouring of the great number of specimens now before me. If it should ultimately prove that the terms *melanogenys*, *Sabinæ*, and *maculata* are all one and the same species, then a new name must be proposed for the little bird collected by Mr. Dyson in the Caraccas. If, on the other hand, the term *melanogenys* be allowed to stand as the specific designation of that bird, so much the better; as, by that means, much confusion will be obviated.

It will be observed that, although any brilliant colouring is denied to the under surface of most of the members of the genus *Adelomyia*, the green of their backs and upper surface is more than usually lustrous.

All the upper surface shining bronzy green; wings deep brownish purple; two centre tail-feathers greenish purple glossed with bronze; the remainder of the same hue on the outer webs and across the inner web near the tip, the basal portion of the inner web and the tips of both webs being buffy white; under surface mingled buff and bronzy green, assuming a spotted character on the throat.

The figures are of the natural size. The plant is the *Abutilon insigne*.

AVOCETTINUS EURYPTERUS.

J Gould and H C Richter, del et lith.

Hullmandel & Walton, Imp.

AVOCETTINUS EURYPTERUS.

Purple-tailed Avocet.

Trochilus eurypterus, Lodd. in Proc. of Comm. of Sci. and Corr. of Zool. Soc., part ii. p. 7.
Polytmus euryptera, Gray and Mitch. Gen. of Birds, vol. i. p. 109, *Polytmus*, sp. 88.
Trochilus Georginæ, Bourc. in Proc. of Zool. Soc., part xv. p. 48.
Polytmus Georginæ, Gray and Mitch. Gen. of Birds, vol. i. p. 109, *Polytmus*, sp. 89.
Delattria georgina, Bonap. Rev. et Mag. de Zool. 1854, p. 253.
Avocettinus eurypterus, Bonap. Rev. et Mag. de Zool. 1854, p. 256.
Avocettula euryptera, Reichenb. Aufz. der Colibris, p. 6.—Ib. Troch. enumer., p. 1. pl. DCLXXIX. figs. 4485, 4486.
——— *Georginae*, Reichenb. Aufz. der Colibris, p. 6.—Ib. Troch. enumer., p. 3.

It has for a long time been a question with me, whether the *Trochilus Georginæ* of M. Bourcier, and the *T. eurypterus* of Loddiges, were not really one and the same species. To clear up this doubt, I obtained the loan of M. Bourcier's typical specimen in order to compare it with that of Mr. Loddiges, and I find that they do not differ sufficiently to warrant their being considered as distinct. Loddiges' bird is a trifle larger than M. Bourcier's, has the spots on the breast a little stronger, and the middle tail-feathers somewhat broader, and that is all; I am consequently obliged to sink the name of *Georginæ* into the rank of a synonym. Loddiges' specimen, which was from Popayan, formed part of a small collection I received direct from that country in 1831, and which, together with other novelties, I had the pleasure of presenting to my late friend, from whose pen a description of it will be found in the "Proceedings of the Committee of Science and Correspondence of the Zoological Society of London" for 1832. The collection being unaccompanied by notes of any kind, no account could then be given of the species; nor in the interval of twenty-five years, which has since elapsed, have we been able to obtain any positive information respecting its habits and economy, and but little as to its natural habitat. The bird still continues extremely rare. All the specimens known so closely resemble each other in size and colour, that no marked difference can be perceived. Their style of plumage favours the idea of their being immature, but I believe the contrary to be the case, and that the species is one of those in which but little difference occurs in the outward appearance of the sexes, and in which the young are clothed in a plumage similar to that of the adults from a very early period of their existence.

I consider that Prince Charles Bonaparte had good grounds for separating this bird generically from the more common *Avocettula recurvirostris*, there being in my opinion but little affinity between them.

As I have already said, we are totally unacquainted with the habits and economy of this species; and respecting the bird itself, we only know that the first specimen was received from Popayan, and that the others have been found from time to time in collections sent from Santa Fé de Bogota. In all probability the bird is a native of the high lands of the Andes, and obtains its insect food from the flowers of the smaller alpine plants, the extreme shortness and feebleness of its bill, when compared with the size of the body, leading to such an inference.

Head deep bronze, passing into the golden green of the back and wing-coverts; lower part of the back and upper tail-coverts brighter green; wings purplish brown; two centre tail-feathers bronzy green; the remainder purplish black glossed with bronze, and the lateral feathers tipped with grey; centre of the throat and abdomen grey, with a spot of greenish brown at the tip of each feather; sides of the neck and flanks golden green; vent and under tail-coverts rusty red; bill blackish brown, except at the base of the under mandible, which appears to be flesh-colour; feet, which are very large, purplish flesh-colour.

The figures are the size of life. The plant is the *Ipomæa Platensis*.

AVOCETTULA RECURVIROSTRIS.

J.Gould and H.C.Richter del. et lith.

Hullmandel & Walton, Imp.

AVOCETTULA RECURVIROSTRIS.

Fiery-tailed Avocet.

Trochilus recurvirostris, Swains. Zool. Ill., vol. ii. pl. 105.—Jard. Nat. Lib. Humming Birds, vol. i. p. 80. pl. 3.

Mellisuga? *recurvirostris*, Steph. Cont. of Shaw's Gen. Zool., vol. xiv. p. 248.

Ornismya recurvirostris, Less. Hist. Nat. des Ois. Mou., p. 129. pl. 37.—Ib. Supp., p. 166. pl. 34.—Ib. Traité d'Orn., p. 284.

Campylopterus recurvirostris, Swains. Class. of Birds, vol. ii. p. 330.

Hylocharis recurvirostris, Gray and Mitch. Gen. of Birds, vol. i. p. 114, *Hylocharis*, sp. 11.

Curve-billed Humming Bird, Lath. Gen. Hist., vol. iv. p. 358.

Avocettinus recurvirostris, Bonap. Consp. Gen. Av., p. 75, *Avocettinus*, sp. 1.

Avocettula recurvirostris, Bonap. Rev. et Mag. de Zool. 1854, p. 256.—Reichenb. Aufz. der Colibris, p. 6.—Ib. Troch. enumer., p. 3. pl. DCLXXIX. figs. 4485–4489.

Ornismya avocetta, Less. Supp. Hist. Nat. des Ois. Mou., p. 145. pl. 24.—Ib. Les Troch., p. 74. pl. 23.—Jard. Nat. Lib. Humming Birds, vol. i. p. 78. pl. 2.

Avocettinus lessoni, Bonap. Consp. Gen. Av., p. 75, *Avocettinus*, sp. 2.

The earliest record of the existence of this interesting bird will be found in the second volume of Swainson's "Zoological Illustrations," where a unique specimen, purchased by him at the sale of Bullock's celebrated Collection, is figured and described. He states that Bullock had received it from Peru; but all the specimens that have come under my notice have been collected in Cayenne and Demerara, and these, with the immediately adjoining countries, constitute, I believe, its true habitat: this may not, however, be the limit of its range, and it is possible that it may visit the distant country of Peru, but I think it very unlikely that it does, and apprehend that Bullock must have been misinformed as to the locality in which his specimens were procured. In the absence of any positive information respecting the habits and economy of this species, or the peculiar adaptation of its singularly-formed bill, Swainson has ventured upon the following hypothesis, which I repeat, without being able to verify or deny it in any particular:—

"The extraordinary formation in the bill of this beautiful little creature is without parallel in any land-bird yet discovered, and presents in miniature a striking resemblance to that of the Avoset. It is almost impossible to conjecture rightly the use of this singular formation; but it appears to me not very improbable, that the principal sustenance of the bird may be drawn from the pendent *Bignoniæ*, and other similar plants, so common in South America, whose corollæ are long, and generally bent in their tube: the nectar being at the bottom, could not be readily reached either by a straight or incurved bill, though very easily by one corresponding to the shape of the flower."

At least three very distinct states of plumage characterize this species. In the fully adult, the green breast and the fiery under surface of the outer tail-feathers are the conspicuous features. In younger males, even after the bird has acquired the green on the throat, the tail is greenish or purplish black, with the three outer feathers tipped with white. In the females or young of the year (it is uncertain which), the throat and centre of the abdomen are black, bounded on either side by a streak of white; in this state, too, the outer tail-feathers are tipped with white.

I may remark that the *Avocettula recurvirostris* is by no means a common bird in the collections of Europe,

and a long time will probably elapse before we are made acquainted with the peculiar purpose for which its curiously-formed bill is adapted.

M. Bourcier considers that the *Ornismya avocetta* of M. Lesson is the young of this species; in which opinion I coincide; but I believe that the specimen from which M. Lesson's figure was taken had the tail of some other species surreptitiously appended to it instead of its own.

M. Bourcier informs me, that the *Avocettula recurvirostris* is found in Cayenne, that it is rare there, and that the chasseurs only meet with it in the interior of the great forests, where it lives isolated.

The male has the whole of the upper surface, abdomen, and under tail-coverts golden green; throat and breast shining emerald-green; down the centre of the abdomen a stripe of black; wings dark purplish black; thighs white; two centre tail-feathers greenish blue, the remainder coppery brown, margined on the basal half of the external web with bronzy green; under surface of all the tail-feathers rich, shining, fiery copper colour; bill and feet blackish brown.

At a younger age the colouring of the body and wings is very similar, but the tail is bronzy purple, tipped with white.

In another state, which may be that of the female or a young bird of the year, the centre of the throat and abdomen is brownish black, bounded on each side from the angle of the mouth with an irregular streak of white; the tail dark purple, glossed with green, and the lateral feathers, particularly the outer ones, largely tipped with white.

The figures represent a fully adult male and a female, or young bird of the year, of the size of life. The plant is the *Tweedia versicolor*.

ADELOMYIA FLORICEPS, *Gould*.

J Gould and H C Richter, del et lith *Hullmandel & Walton, Imp*

ADELOMYIA FLORICEPS, *Gould.*

Blossom-crown.

Trochilus (——— ?) *floriceps,* Gould in Proc. of Zool. Soc. 1853, p. 62. Reported in Athenæum, 1853, p. 481.

Adelomyia floriceps, Bonap. Rev. et Mag. de Zool. 1854, p. 253.

Metallura floriceps, Reichenb. Aufz. der Colibris, p. 8.

This pretty little species, to which I have given the trivial name of Blossom-crown, is an inhabitant of the great country of Columbia, and is one of the most recent discoveries made in that rich region. The single specimen sent to me by M. Linden of Brussels had, I believe, been collected by his brother-in-law in the neighbourhood of the Auruaco Village of San Antonia, on the Sierra Nevada de Santa Martha, in lat. 10° 40′, long. 72°, at an elevation of 5000 feet; and, so far as I am aware, is the only one that has yet been procured. It appears to be fully adult, and has all the characteristics of the male sex. In giving a figure of it thus early in my work, I am desirous, first, to make it generally known; and secondly, to call the attention of collectors who may visit Santa Martha to the circumstance that examples of it are among the desiderata of our cabinets.

I have placed this bird provisionally in the genus *Adelomyia,* because in its structure and colouring, except in its lilaceous crown, it more closely assimilates to the *A. melanogenys* than any other member of the family.

Forehead buffy white, passing into a beautiful deep peach-blossom hue on the crown; throat grey, passing into the rufous of the abdomen; wings purplish brown; middle tail-feathers bronzy; lateral tail-feathers bronzy at the base, passing into purplish black, and largely tipped with buff; bill black; feet apparently light brown.

The figures are of the size of life. The plant is the *Lisianthus acutangulus.*

ADELOMYIA? CASTANEIVENTRIS, *Gould*

J. Gould and H.C. Richter, del. et lith. *Hullmandel & Walton, Imp*

ADELOMYIA? CASTANEIVENTRIS, *Gould.*

Chestnut-bellied Adelomyia.

Trochilus (——— ?) *castaneoventris*, Gould in Proc. of Zool. Soc. 1850, p. 163.
Metallura castaneiventris, Reichenb. Aufz. der Colibris, p. 8.

Examples of this new species of Humming Bird are, I believe, to be seen in my own Collection alone. They were shot by M. Warszewicz, on the Cordillera of Chiriqui. One of the four specimens sent me by this gentleman has the crown of the head metallic green, a very rich chestnut-red pervading the whole of the under surface, and the outer tail-feathers tipped with buff; the three others have no metallic colouring on the crown, have the chestnut hue of the under surface paler, and the three lateral tail-feathers tipped with white. These differences induce a belief that the three latter are not identical with the former, but constitute a distinct though nearly allied species; and if this opinion should hereafter prove to be correct, then the term *castaneiventris* must be retained for the bird with the metallic crown and buff-tipped outer tail-feathers. I regret that the few specimens I possess do not admit of my determining the point, and I would, therefore, strongly urge collectors to visit the native country of the bird, as I feel assured that their researches would be amply repaid, not only by additional examples of this species, but by the discovery of many others, as a richer field for the naturalist does not exist between the Isthmus of Panama and Mexico, and numerous species, yet unknown to us, live in the neighbourhood of the Volcano of Chiriqui.

I have provisionally placed this bird in the genus *Adelomyia*, with a mark of doubt as to the propriety of so doing, for, although the uniform chestnut colouring of the under surface is not found in any other member of that genus, an approach to it is observable in the *A. floriceps*, while in the form of its bill and tail it very nearly resembles, not only that species, but also *A. melanogenys*.

The specimen of the true *castaneiventris* which graces my Collection, was killed at an altitude of 6000 feet; the three others above mentioned were obtained 2000 feet higher.

Crown of the head metallic green; upper surface green; wings purplish brown; tail dark bronzy green, crossed near the tip by a broad band of black; the lateral tail-feathers tipped with buff, which increases in extent as they recede from the central ones; all the under surface reddish chestnut; bill black.

The figures are of the natural size.